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ORIGINAL ARTICLES.

DOUBLE UTERUS AND VAGINA.

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In a previous paper the writer presented a summary of facts and conclusions arrived at after studying the histories of 97 cases of malformation of the uterus and vagina due to defective development of the ducts of Müller. He has since collected and tabulated the histories of 224 more cases, all obtained from what he believes to be reliable sources. These, together with the 97 reported in the former article, comprise all the cases, except a very few not at the time obtainable, to be found in the library of the Surgeon-General's office at Washington, and the writer thinks will furnish us data for arriving at correct conclusions.

The tables were originally designed for publication, but are found too voluminous; but as they contain many points of interest to the general practitioner, and some of them are at variance with statements made by writers of acknowledged authority, the writer has thought a summary of some of the facts obtained might be of value to the profession. The tables just referred to are made up from reports of 224 cases and are four in number. Number 1 is a record of 100 cases of congenital malformation of the uterus in which pregnancy occurred. In twenty-nine of the cases the vagina was double.

Table No. 2 records 20 cases in which pregnancy occurred in women having double vaginæ while the uteri were of normal development.

Table No. 3 relates to malformations of the uterus where pregnancy never occurred. There are 90 cases recorded thirty-five of which are associated with double vagina. Lastly table No. 4 is a record of 12 cases of non-pregnant normal uteri each one associated with a double vagina. In this paper, chiefly for the writers convenience, he will follow the line of study indicated by these tables.

The term double uterus, as in the former paper, is used to include all congenital malformations of the uterus described by Todd[1] as uterus bipartitus, uterus unicornis, uterus bicornis, and uterus biloculoris. By accepting the anatomical description of this author all the various subdivisions may be easily included as these of our general classes.

The comprehensive term, double vagina, is intended to include all vaginæ divided into two parts by an antero-posterior septum, whether complete or incomplete, whether the vaginæ are of equal or unequal size, or one patulous and the other occluded.

Double vagina has heretofore received little consideration. It is hardly of less importance clinically than double uterus, and then the malformations of the uterus under discussion are more frequently associated with a double than a single vagina. Of the 270[2] cases the writer has studied, 144 or 53⅛ per cent. were associated with a duplex condition of the vagina, and furthermore, this duplex condition of the vagina sometimes gives rise to many distressing symptoms and in a few cases has been the cause of the death of the patient. Frequently it has interfered with coition, menstruation and labor so that operative proceedures have been required.

The writer has purposely abstained from theoretical discussions, leaving that for some future occasion, and has confined himself to the historical, clinical and statistical study of the subject.

First, then following the line of study as indicated in his description of the tables above, he has to present some facts relative to 100 cases of pregnancy, gestation, and delivery. Tables A, B and C are sufficiently plain as to require no explanations.

The following facts regarding twin and triplet pregnancies are found, viz.: Fifteen women were pregnant of twins seventeen times. The forms of the uteri were as follows: Bicornis, vagina single, 10 women pregnant 11 times; bicornis, vagina double, 2 women pregnant 2 times; biloculars, vagina single, 3 women pregnant 4 times.

One woman four twins twice and triplets twice. This woman had a bicornute uterus with double vagina, and died of rupture of the uterus in the last labor.

It is pertinent to enquire what are the dangers

[1] Todd's Cyclopædia of Anatomy and Physiology, Vol. v, p. 678.
[2] Cases in the former article included.

TABLE A—*Showing facts regarding pregnancy in the different forms of double uterus and vagina.*

FORM OF MALFORMATION.	No. women pregnant.	No. pregnancies.	No. Natural deliveries.	No. artificial deliveries.	No. not stated.	Abortions or miscarriages.	No. of deaths of mothers.	REMARKS.
Uterus double, vagina single.	71	161	122, or 75.5 %	22, or 13.6 %	3	22, or 13.6 %	20, or 28.1 %	
Uterus double, vagina double.	29	85	36, or 40 %	17, or 26 %	22	10, or 16 %	8, or 27.5 %	
			Details as to	classes under		the same heads	as above.	
Uterus bipartitus, vagina single.	3	7	4	2	..	1	1, or 33⅓ %	
Uterus bipartitus, vagina double.	1	1	1	.....	..	.....	.....	
Uterus unicornis, vagina single.	3	6	4	.....	..	.....	3, or 100 %	26 women had natural deliveries, 10 women had artificial deliveries, 1 missed labor, 10 women miscarried.
Uterus bicornis, vagina single.	42	120	80	11	4	23	11, or 26.1 %	Number of women who miscarried, 8.
Uterus bicornis, vagina double.	19	50	24	10	1	13	6, or 31.5 %	
Uterus didelphys.	4	4	.....	2	..	2	.....	These cases were included in the class immediately above.
Uterus bilocularis, vagina single.	18	39	34	4	..	.....	5, or 27.6 %	Number of women having natural deliveries, 14.
Uterus bilocularis, vagina double.	8	19	14	3	..	1	2, or 25 %	Number of women having natural deliveries, 3; pregnant when seen, 1.

TABLE B—*Showing the number of deaths, and the cause thereof, as a result of pregnancy and delivery in double uterus and vagina.*

FORM OF MALFORMATION.	No. of Deaths.	Septicæmia.	Puerperal Fever.	Peritonitis.	Hæmorrhage, Post-partum.	Hæmorrhage from vicious resection of the Placenta.	Collapse.	Hæmor., Placenta-prævia.	Rupture of the Uterus.	REMARKS.
Uterus bipartitus, vagina single.	1	..	..	....	....	....	..	...	1	
Uterus unicornis, vagina single.	3	..	..	1	....	....	..	...	2	The death from peritonitis followed a normal delivery.
Uterus bicornis, vagina single.	11	..	1	1	1	....	..	...	4	Puerperal endometritis, 1; pneumonia, 1; eclampsia, 1; arterial embolism, 1.
Uterus bicornis, vagina double.	6	1	..	2	....	....	1	...	..	Rupture splenic abscess, 1; not stated, 1.
Uterus bilocularis, vagina single.	5	..	..	....	1	1	..	1	1	1 from metro-peritonitis, and 1 polypus of the heart.
Uterus bilocularis, vagina double.	2	..	..	1	....	....	..	...	..	1, eclampsia during labor.

TABLE C—*Showing the means employed to effect delivery where artificial means were employed.*

FORM OF MALFORMATION.	Number of Cases.	Forceps.	Turning.	Laparotomy.	Cæsarean Section.	Incision of Septum.	Cephalaptriptor.	Manual Delivery.	REMARKS.
Uterus bipartitus, vagina single.	2	2	...	...	...	...	...	..	
Uterus bicornis, vagina single.	11	4	2	1	..	...	...	..	Fœtus removed piecemeal, 1; not stated, 3.
Uterus bicornis, vagina double.	10	1	2	...	...	...	1	1	Fœtus removed piecemeal, 1; accouchment force, 1; not stated, 3.
Uterus bilocularis, vagina single.	4	1	1	...	1	...	...	..	Croche, 1; 1 on account of abnormal position of uterus.
Uterus bilocularis, vagina double.	3	...	...	...	1	2	...	..	Cæsarean section was done after death of mother from eclampsia.

to be feared from pregnancy occurring in those forms of malformation of the uterus? In the first two forms, viz.: bipartitus and unicornis, rupture of the uterus. In the first on account of the defective development of uterine tissue, its walls may not develop as the period of gestation advances. They are prone rather to dilate as the embryo grows and finally reach a point where they are not sufficiently strong to resist the pressure from within and rupture. In the second form we have three elements of danger either one of which may lead to rupture of the uterus.

1. The rudimentary horn may become pregnant and rupture from the same cause as mentioned in the preceding paragraph, or the fœtus attaining full growth may find no way of escape

from the uterus and a rupture of the organ occur as a result of labor-pains.

2. The unsymmetrical development of the uterine corna predisposes it to rupture sometime during the period of gestation or in labor.

3. The oblique position in the pelvis in which the horn develops may remove the axis of the uterus from that of the vagina and thus render labor not only difficult but natural labor impossible, and here rupture may result from long continued pressure of some portion of the fœtus upon the uterine wall conjoined with the violent contractions of the uterus in its efforts to effect delivery. The last mentioned element of danger is probably more theoretical than real, for the writer has been unable to find any reported cure of rupture of the single horned uterus where the pregnancy occurred in the developed horn, while he has the histories of two cases where rupture resulted from impregnation of the rudimentary horn.

In uterus bicornis troubles following delivery are the most prolific causes of the death of the mother. This may be accounted as due to the large number of difficult labors and the imperfect drainage of the uterus following labor on account of its unfavorable position in the pelvis. Rupture of the uterus is next in frequency as a cause of death. One case occurred because of the impaction of the head of the fœtus and the prolonged effort of nature to expel it, and in three cases where each fœtus developed in a rudimentary horn.

Hæmorrhage was the chief cause of death in patients having uterus bilocularis. Vicious attachment of the placenta and irregular uterine contractions subsequent to labor are mentioned as the predisposing causes of the hæmorrhage.

As a second division of our subject we may consider those cases having a vaginal septum with the uterus normal and all the subjects pregnant. Here we have the histories of 22 cases. The vaginal septa presented various forms and shapes and are described by reporters as crescentric, pyramidal and complete antero-posterior vertical septa. When complete they extend from the introitus vaginæ to the cervix uteri or to the upper extremity of the vaginal tube to one side of the cervix. The septum is covered by mucous membrane upon either side and continuous with the mucous membrane of the vagina. Between the two layers of mucous membrane are submucous and cellular tissue, the latter of which serves to fasten it in its position antero-posteriorly in the vagina. Considerable muscular tissue is sometimes present between the layers of mucous membrane, and at times fibrous tissue predominates. Any part of the septum from the vaginal entrance to the cervix of the uterus may be deficient, so that the forms and shapes already mentioned may be assumed. In this class we have twenty-two women pregnant twenty-eight times. One woman was pregnant several times, with every labor normal. The septum interfered with labor in 12 instances. Of these the septum was torn through in labor in 4, incised in 7, and severed by a thread in 1. In 3 cases considerable hæmorrhage followed the incision. There were no deaths. Seven patients had normal deliveries. In the artificial deliveries the following means were used, viz.: Crochet, 1; delivered through the rectum after incision, 1; forceps, 4; and manual change of position of the child in 1 case.

Our third division relates to congenital malformations of the uterus where the vagina is single or double and pregnancy has never occurred. Here we have the histories of 90 cases. The chief interest the writer has found in the study of this class of cases has been in the percentage of each form of malformation found, the departures from the normal in the anatomical condition, the anomalies of menstruation incident to them, and lastly, the diseased conditions found to exist. There were of the various forms reported: Of uterus bipartitus, vagina single, 7 cases, vagina double, 1 case; of uterus unicornis, vagina single, 11 cases, vagina double, no case; of uterus bicornis, vagina single, 32 cases, vagina double, 28 cases; of uterus bilocularis, vagina single, 5 cases, vagina double, 6 cases. Total—vagina single, 55 cases; vagina double, 35 cases. In uterus bipartitus the vagina was found to be normal in but a single case and double in one. In all others it was either short, a cul-de-sac, or entirely absent. The adnexa were found normal in 3 cases, and either rudimentary or imperfectly developed in others. The uteri varied in size, shape and development. In some cases they were simply rudimentary without a canal, in others without any communication with the ovaries through the Fallopian tubes. In one case the uterus was sufficiently well developed to admit of normal menstruation, and in this instance the reporter states there were three ora, and that the menstrual fluid escaped from all of them simultaneously.

Concomitant to an imperfectly developed condition of the uterus and vagina was a like condition of the adnexa. Sometimes the imperfections were found in the tubes and at other times in the ovaries. The anomalies of menstruation were dependent upon those of the organs already described. The nearer approach to perfect development of all the organs involved the more nearly normal was the performance of the function. Menstruation was absent in three cases, vicarious in one where there was no uterine mucosa, but normal tubes and ovaries. In one in which there was no normal flow, but distressing molimina, the latter entirely disappeared on removal of the ovaries.

There does not seem to have been any record of a special proneness to any one disease.

In uterus unicornis we find no instances where

this malformation was associated with a double vagina. The most marked feature to be found in this class is an occasional rudimentary horn, also a rudimentary condition of the tube and ovary upon the side in which the cornus is absent. A number of cases of entire absence of the tube, ovary and kidney upon the imperfect side are found. A marked deflection of the one-horned uterus toward the side in which it develops frequently exists. But few details are given respecting menstruation, but what are, show that this important function is performed irregularly or is entirely absent.

Of the 90 cases of women who have never conceived and who had malformations of the uterus of the forms under discussion, 60 of them were of uterus bicornis. Here is the middle ground between the normal and the greatest deviation from the normal, and here will centre the chief interest of the practitioner. In the 28 cases in which the duplex vagina occurs will be found nearly every variation incident to this anatomical abnormality. In some instances the vagina is divided into two parts, equal or unequal, by a complete septum. Atresia of one side occurs in one instance, and in several instances a partial septum incompletely divides the tube.

There are 15 instances of complete septum and 4 in which it is incomplete, 1 of atresia of one vagina, and 8 in which it is not stated, but is probably complete. As great a variation in the form of the uterus was noted. Todd's accuracy in his description of this form of malformation is here verified. No cases of uterus didelphys are recorded in this table. The histories from which the table was compiled are too meagre, in some instances, to enable the compiler to accurately state the number in each variety in this class; nor, indeed, is it important.

It was observed that sometimes the os was single and sometimes double, and that in quite a number of instances there was atresia of one os and a resultant hæmatometra. A rudimentary horn was not infrequently present, and when found it had usually as concomitant a rudimentary ovary and tube. The facts regarding menstruation are not sufficiently complete to be entirely satisfactory, yet there are some points of interest. Sometimes the flow proceeds from both sides of the bicornute uterus simultaneously, and at other times the uteri alternate in the performance of this function; when they do menstruation occurs either every two weeks or every four weeks. In the light of these facts who can question the possibility of the impregnation of one horn when the other horn contains an ovum in process of development.

Hæmatometra is met with more frequently in this class than in all others. Cystic degeneration of the ovary seems to be the only disease which occurs with more than usual frequency.

In uterus bilocularis there is the least departure from the normal development. The adnexa are less frequently rudimentary or absent, the external genitals more frequently well developed and the performance af the menstrual function is not so often imperfect or difficult.

There are recorded in this table 6 cases in which in this class the vagina is duplex. In all of them the septum was complete and no instance of atresia of any one of them found. There are 6 cases in which there are two ora, 3 having two cervices, 2 of single os, 1 of atresia of the os, and 2 not stated. One case had two cervices and a single os. Here a hæmatometra developed. There is quite a variation in the external form of the uterus. Sometimes no departure from the normal could be detected in the body of the uterus by conjoined manipulation, in others a groove marked the line of division of the organ, and in others there was a depression at the center of the fundus. The vaginal touch and uterine sound proved the most valuable means of diagnosis.

In but four instances are there details given of the state of the menstrual function. In three of these it was performed normally, and in one normally, except that it was painful. The following morbid conditions were found: 1 of cyst of Fallopian tube; 1 gonorrhœa with resulting parametritis; 1 cancer of the uterus.

The fourth table I have compiled and to which I wish to refer to here, is made up of the histories of 12 cases of non-pregnant normal uteri associated with double vagina. One vagina was a cul-de-sac in seven instances. Inflammatory disorders of the uterus and vagina existed in six instances. The septum was incised in three, and severed by the galvano-cautery in two, and all recovered. Disordered menstruation was present in 3 cases. The uterus was normal in all cases but one and in that one it was undeveloped.

The following is a statement of the number and per cent. in each form of malformation, including those reported in my former paper, viz.: Uterus bipartitus, 14 cases, or 5.2 per cent. of all cases; uterus unicornis, 18 cases, or 6.7 per cent. of all cases; uterus bicornis, 175 cases. or 65.3 per cent. of all cases; uterus bilocularis, 68 cases, or 22.7 per cent. of all cases; unclassified, 2 cases. Total number of cases 270. Number of cases of double uterus and vagina, 144, or 47.3 per cent.; number of cases of double uterus, 126, or 41.4 per cent.; number of cases of double vagina, 34, or 11.1 per cent. Total number of cases, 304.

Hæmatometra.—Twenty cases in all are recorded in the lists we are studying. One was found two weeks after delivery and 19 in cases in which pregnancy never occurred. In but a single instance do we find it associated with hæmatocolpus. In one instance nature after a time performed a cure, a perforation occurring in the septum between the cornua so that the retained fluid escaped

into the pervious uterus and thence found its way into the vagina. A perfect recovery took place.

No instances are recorded where hæmatometra or hæmatocolpus was discovered where there was double vagina alone, and but a single case occurred in a woman who had ever been pregnant. This woman had borne twelve children, the last one three weeks before admission into the hospital. Upon examination a hæmatometra was discovered, opened by the finger-nail and the patient recovered. One case of rupture of the uterus is recorded, resulting from hæmatometra. A hæmatometra had been discovered and punctured and part of the fluid evacuated. Five days later the patient died suddenly of rupture of the uterus. Of the cases of hæmatometra recorded 19 were of uterus unicornis, and 1 of uterus bilocularis. Seventeen of them were operated upon, 9 died and 8 recovered. The means employed, and results, are as follows: 6 cases of puncture with trocar, 5 deaths, 1 recovery; 2 cases trocar first and bistoury later, 1 recovery and 1 death; 5 cases incision with bistoury, 4 recoveries and 1 death; 1 opened with finger-nail, recovered; 1 opened with sound, died; 2, means not stated, 1 died, 1 probably recovered; 1 case nature cured. The causes of death in 6 cases is states as peritonitis; 1 empyæmia; and 2 not stated. In one case imperfect drainage resulted in suppuration, free drainage and irrigation effected a cure. In another puncture was followed by fever, which was quickly relieved by free incision.

Hæmatocolpus is found in three instances, once occurring with hæmatometra, the details of which I am unable to obtain. A second one is found with no details. The third case was one of acquired hæmatocolpus. It was tapped four times. After the last tapping a peritonitis developed and the patient died.

Rupture of the Uterus.—Nine cases of rupture of the uterus are recorded. Six were of uterus bicornis, two of uterus unicornis, and one of uterus bipartitus. All but one occurred as a result of pregnancy. The exceptional case was one of uterus bicornis, in which there was atresia of one horn and a hæmatometra developed. It was punctured and the menstrual fluid allowed to escape. Five days later the patient was suddenly seized of a violent pain, which lasted some time, when she had the feeling as of something giving way. Death soon followed and the autopsy revealed a rupture of the uterus of the horn in which the menstrual fluid had been retained.

Of the 8 cases pregnant in which rupture occurred, in 3 it was the first pregnancy; in 1 the twelfth pregnancy; but the first in the horn ruptured one previously referred to; 1 in the fifth pregnancy and first in the horn ruptured; 1 in the fourth pregnancy and first in the horn ruptured; 1 not stated; 1 in the fifth pregnancy, that of triplets.

In the last case the rupture occurred in the forty-first hour of labor, all the preceding labors having been difficult. The rupture in this case was doubtless due to the head having been in such a position that it could not advance.

The immediate cause of death was peritonitis in 4 cases; hæmorrhage in 3; not stated in 2.

No operative measures were employed in 6 cases. In 2 the children were delivered by forceps. Every patient in which the rupture occurred died. No operative procedures were resorted to to save the patients after the rupture occurred.

The records show a case in which laparotomy was done to remove a supposed tumor. A pregnant rudimentary horn was found. A month later the abdomen was opened, the horn extirpated and the patient made a good recovery. In another instance pregnancy occurred in a rudimentary horn, symptoms of labor appeared and passed away. Six months later the woman died of phthisis, when autopsy revealed the true condition. The fœtus had been dead some time and was partly absorbed.

These two cases furnish us a hint of the possibilities of cure in laparotomy, and in electricity to produce death of the fœtus. It is not surprising that the expectant treatment was adopted in the majority of the cases of rupture; for they occurred before the benefits of laparotomy were fully understood, and some of them, indeed, before this procedure had ever been employed for the relief of similar conditions. Then, too, it must be remembered, the true nature of some of the cases was only determined upon autopsy. The question will naturally arise as to the operative measures to be adopted when a pregnant rudimentary horn is discovered. The solution of this question will doubtless depend upon the anatomical condition present and the time in the period of gestation it is found. If the examiner can make out clearly a pregnant rudimentary horn with a long pedicle, and in the early months, laparotomy will doubtless be generally chosen. Should the rudimentary uterus be closely attached to its fellow then it may be necessary for the operator to choose between Porro's operation and the use of electricity to produce the death of the fœtus.

The highly favorable results shown by recent writers attending the use of electricity will strongly tend to popularize the procedure if indeed not to stamp it as the one above all others to be employed in all cases of pregnancy of the rudimentary horn and of extra-uterine pregnancy in the earlier and middle months. After the rupture of the uterus and the discharge of its contents into the abdominal cavity laparotomy affords the only hope of recovery. When the full period of gestation is reached without a rupture, and labor is attempted, the same rules must govern the treatment as in tubular pregnancy, and when rupture occurs during labor from obliquity of the uterus,

impaction of the fœtal head, or from non-development of some portion of the uterus, and the os be pervious and in communication with the vagina, the same procedures should be adopted as in rupture of the uterus occurring where there is no malformation. Simon's case[1] shows one point of particular interest. A rudimentary uterus having no communcation with its fellow became pregnant and ruptured. The autopsy revealed an absence of a corpus luteum in the ovary corresponding to the pregnant horn, but a fresh one in the ovary of the opposite side. This instance strongly supports the theory of the migration of the ovum, either before or after it has been pierced by the spermatozoa, to the mouth of the tube upon the opposite side and thence through the tube to the rudimentary horn.

NASAL MYXOMATA.

Read before the Chicago Medical Society, September, 1888.

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Nasal polypus is an ancient subject, but considering its frequency, the discomforts and dangers to which it subjects the sufferer, the difficulty of radical extirpation and the consequent liability to recurrence, it may well be reviewed in the light of modern methods.

The disease does not exist as a primary affection, but is always associated with some other nasal malady which stands to it in the relation of cause or as a complication. Indeed the removal of such associated maladies together with the polypi is the "key-note" to the proper and effective handling of the patient. Recognition of the exact points of origin of the neoplasms is essential to a clear understanding of their etiology and treatment. The outer wall of each nasal cavity is rendered especially uneven by the three turbinated bones, their margins of attachment being horizontal one above the other, which leaves intervening spaces, called respectively, the inferior meatus, between the inferior turbinated body and the nasal floor, the *middle meatus*, between the middle and inferior turbinated bodies and the superior meatus, between the superior and middle turbinated bodies. In the outer wall of the middle meatus is the ethmoidal fissure or *hiatus semilunaris*—a crescentic opening about two millimetres in width and two centimetres in length, its convexity being directed downward and forward. (Figure 1.) The antero-inferior boundary of the fissure is a sharp edged ridge which, from its hook-like curve, is termed the unciform process of the ethmoid bone. The postero-superior boundary is formed chiefly by the *bulla ethmoidalis* which is an ethmoidal cell with its wall bulged toward the septum and downward. The

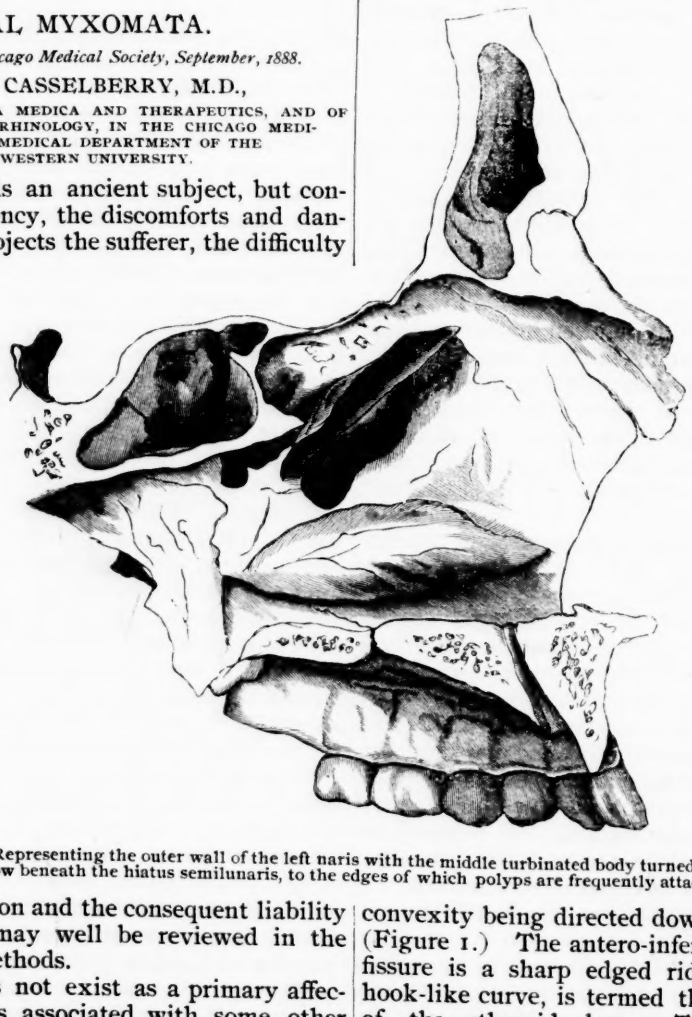

Fig. 1.—Representing the outer wall of the left naris with the middle turbinated body turned upward to show beneath the hiatus semilunaris, to the edges of which polyps are frequently attached.

[1] Zeitschrift für Gefurtshülfe und Gynäkologie, 1877-78.

fissure itself is an opening into the whole length of the side of the *infundibulum*, which is an elongated crescentically curved funnel shaped cavity communicating through its upper and smaller end with the frontal sinus and through its lower and larger extremity with the antrum of Highmore, entering this cavity in conjunction with the main opening into it from the middle meatus—the *ostium maxillare*.

Above the bulla ethmoidalis, between it and the top of the middle turbinated bone, is another, smaller, fissure which leads into the ethmoid cell of the bulla.

All of these parts lie high up, beneath the middle turbinated bone which hangs down over them like a curtain.

Well developed myxomata rarely spring from flat surfaces. They arise wherever there is a free edge covered by mucous membrane whence they hang by a pedicle. Zuckerkandl (Anatomie der Nasenhöhle S. 64 *et seq.*), cited by Mackenzie,[1] has furnished the most definite information of the exact points of origin of nasal myxomata in the publication of the post-mortem observation of forty-two distinct growths in which the deep origin was ascertained by the gradual removal of the bony parts. Of these forty-two growths, twenty-nine grew from the middle meatus, including two from within the infundibulum, four from the middle turbinated body, three from the superior meatus and the balance of six scattering as, from the Antrum of Highmore two, ostium frontale one, ostium sphenoidale one, ostium ethmoidale one, and upper tubinated body one.

Of the twenty-nine growing from the middle meatus, seventeen were attached to the edges of the *hiatus semilunaris*, the crecentic fissure just described. These observations are in perfect accord with the precise clinical observations recently rendered possible through the extension of our field of vision within the nasal fossæ by the retracting power of cocaine.

It is thus shown that *two-thirds* of all nasal myxomata originate from the middle meatus, beneath the middle turbinated body, and that approximately *two-thirds* of this number take origin from the edges of the *hiatus semilunaris*.

With this knowledge and judging from the superficial position of the neoplasm and the direction of its pedicle toward attachment we can be reasonably certain of the deep point of origin even when such is not visible and can often destroy the very root of the growth by insinuating a properly curved cautery point-electrode to the spot.

The attachment, wherever located, may involve only the mucous and submucous tissue, or it may extend too and involve the underlying bone. The nasal mucous membrane consists of two layers: a superficial mucous stratum, and a deep fibrous layer, which latter has the position and functions of periosteum or perichondrium. As first asserted by Stoerk[2] mucous polypi or myxomata, which are connective tissue growths, arise chiefly from the mucosa or superficial layer included with which is a connective tissue submucosa, but in parts of the upper or olfactory tract the mucous and fibrous (periosteal) strata are closely adherent and it is easy to conceive of the attachment penetrating subsequently to the immediately adjoining periosteum (fibrous layer) and thence to the bone.

Furthermore, it is asserted by Woakes[3] that "these two layers constitute a muco-periosteum which unseparated, dips into the spongy structure of the bone and lines the cells and their osseous dissepiments." In this way the mucous membrane element is introduced into the very interior of the bone and hence may arise myxomata from within the cancelli of the bone of course having bony attachments. Being connective tissue growths it is entirely possible also they may at times originate directly from the periosteum without the intervention of the mucosa although a fibroma or at least a fibromyxoma is more likely then to result.

Etiology.—The most common complication acting also in a causal relation to nasal polypus is hypertrophic rhinitis. Hyperæmia and all which tends to cause congestion will excite hyperplasia and predispose to the formation of distinct neoplasms. Various factors may influence the perversion of a simple hyperplasia of the mucous elements into myxomatous formations.

Hereditary or constitutional diathesis, of a nature too subtile for positive demonstration, may predispose certain families or certain members of a family, as is the case with other neoplasms. It is probable, however, that more frequently variations in the physical conformations of the nostrils determine the involvement of particular areas in the hypertrophic process which occurring at these points is prone to assume the myxomatous form.

On flat surfaces, *e.g.*, the inferior turbinated body, true polypi rarely develop, but sessile polypoid excresences—minute myxomatous neoplasms, called "polyp-buds," are a common perversion of the hypertrophic process in this locality. These show little disposition to become fully developed polypi. But when hyperplasia occurs upon a free edge whence portions of mucous membrane become pendulous the conditions are favorable to the production of a circumscribed œdema. The pendulous position with gravity simply favors the exudation of a maxinum of mucin containing serum with a minimum of connective tissue cell proliferation. Consequently whatever favors hypertrophy over such free edges, as the borders of the *hiatus semilunaris*, middle turbinated

[1] Diseases of the Throat and Nose, Vol. ii, p. 362.

[2] Die Krankheiten der Nase, 1880, S. 90.

[3] Nasal Polypus, etc., in relation to Ethmoiditis, 1887, p. 9.

body, etc., acts as a direct cause of mucous polypus. This area is less frequently involved in the hypertrophic process than the lower turbinated bodies, but the same causes, *e. g.*, repeated, acute rhinitis, dust or vapor irritants may affect it either directly or through extension by continuity of surface.

Stenosis, whether induced by hypertrophy of the inferior turbinated bodies, septal deflections or excrescences, results in defective drainage. Mucopurulent secretion, imprisoned and decomposing in the middle meatus and around the middle turbinated body, excites irritation and furnishes the most favorable soil for polyp growth.

Very narrow nostrils, because more readily stenosed, are predisposed, in this manner, to myxomata, and peculiar curvatures or deformities of the septum and middle turbinated bodies by obstructing drainage have a like effect. In one instance, a congenitally deformed middle turbinated bone encroached tightly upon the septum and even pushed it far to the opposite side, preventing drainage from above and causing irritation of surrounding parts.

The influence of hypertrophic rhinitis on the etiology and treatment is well illustrated in the following history.

Miss T——, æt. 10 years. Total obstruction of the left nostril of one year's duration.

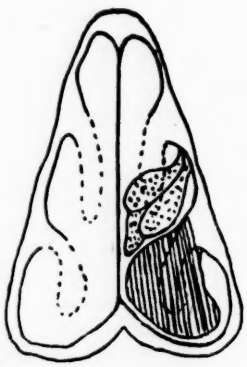

Fig. 2.

Status Præsens.—Examination July 16, 1887. Enormous hypertrophy of the inferior turbinated bodies. Numerous polypi are closely impacted between the turbinated bodies and the septum they proceed from the middle meatus and are continously imbedded in a mass of thick viscid mucopurulent secretion. (Figures 2 and 3.) The polypi seemed secondary to the hypertrophic rhinitis and defective drainage. On the right side hypertrophy was present but was insufficient to obstruct the drainage and no polypi were visible.

Operations first by the cold wire snare resulted in the removal of numerous growths, during repeated sittings, but without improvement. The polypi developed as rapidly as removed, springing up like mushrooms in the soggy soil, maintained by the imprisoned secretions. The inferior turbinated body was next cauterized along its entire extent being reduced in front where it especially interfered with vision, instrumental passage and drainage, almost to a rudiment. One

Fig. 3.

was enabled then to trace the tumors to their exact seat of attachment in the immediate vicinity of the *hiatus semilunaris* and to thoroughly eradicate them by reaching that position with a cautery point. No recurrence. Cure complete.

This patient was but 10 years of age. Myxomata are said to be rare before puberty but are probably only relatively as rare as persistent rhinitis at the same period.

Again, Mr. P——, æt., 45, catarrhal symptoms

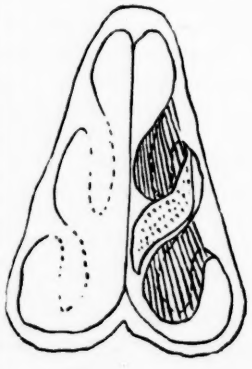

Fig. 4.

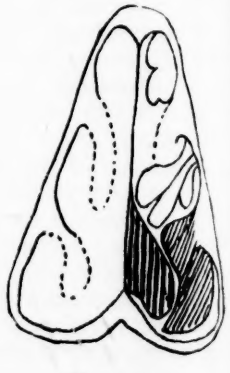

Fig. 5.

for some years; obstruction of the left nostril for one year.

Status Præsens.—Examination March 18, 1887. A single polypus proceeds from the left middle meatus and is traceable in the direction of the *hiatus semilunaris* to the edge of which it is evidently attached. (Figure 4.) The *middle* turbinated body is so hypertrophied as to reach across

to the septum and to obstruct drainage from the middle meatus even after removal of the polypus.

The myxoma was removed by the cold wire snare and its base cauterized by the insertion of a flat knife-electrode upward beneath the middle turbinated body to the point of attachment. Subsequent reduction of the hypertrophic rhinitis and the establishment of proper drainage. No recurrence.

The case of Mr. M——, æt. 25 years, referred by Dr. N. S. Davis, Jr., is remarkable on account of the multiplicity of the neoplasms and the gravity of the consequences.

Both nasal fossæ were literally packed with myxomata and fibro-myxomata. Complete suspension of nasal respiration for years; stupidity of facial expression incident to mouth-breathing; pharyngitis and predisposition to acute bronchitis and asthmatic paroxysms; total incapacity for business usefulness. Previous courses of treatment had failed.

After removal, one by one, of a number of polypi, the inferior turbinated bodies were found to be greatly hypertrophied. They obstructed respiration and drainage, interfered with the transmission of light to the superior and posterior parts of the fossæ and prevented the passage of instruments.

After reduction of these bodies by the galvano-cautery snare and knife electrodes it was possible by the same means to extirpate the bases of the numerous myxomata, which originated from the middle meatus, middle turbinated body, and from the superior meatus descending posteriorly. Result perfect. Examination after one year shows not the slightest recurrence, and nasal respiration is always free.

Septal excrescence is another complication acting also in a causal relation to nasal myxomata. These deformities of the septum are usually found on the sutural lines of the component bones and cartilages, and are osseous or osseo-cartilaginous in structure. The most frequent location is the sutural line of the vomer, and superior maxilla and cartilaginous septum just within the anterior nares and close to the floor of the nose. This, as well as other conditions, finds illustration in the following case.

Mr. B., æt. 32 years, has suffered from nasal obstruction with polypi since 1872. In 1873, and from 1875 to 1880, a number of unsuccessful attempts at removal were made by the old method of "going it blind" with a pair of forceps. Operations by the cold-wire snare and forceps under illumination followed, in 1881, 1885, and 1886.

Status Præsens.—Examination July, 1887. Several myxomata spring from beneath the left middle turbinated body, and from near the roof of the left naris. Both inferior turbinated bodies are hypertrophied, and on the left side a prominent spur or excrescense projects from the septum, meeting the turbinated body and causing obstruction of the left nostril independently of the polypi. (Fig. 5.) Polypi exist also on the right side, and large myxomata, together with polypoid degeneration of the septum and of the posterior ends of all the turbinated bodies occlude the posterior nares. (Fig. 6.) There is necrosing ethmoditis of Woakes, dead bone and fœtid discharge.

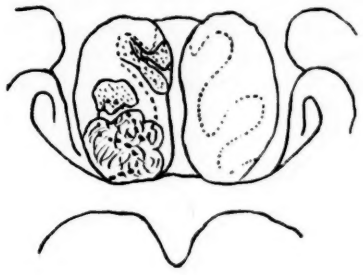

Fig. 6.

The septal excrescence obstructs respiration, prevents drainage, interferes with vision, and renders it impossible to pass instruments to the seat of disease. It was easily removed by a saw which I found convenient to devise for the purpose. The floor of the nose just within the anterior nares is not a perfectly horizontal plane, but is curved, with the convexity directed downward. The septal deformity is close to the floor and conforms to this curve, consequently a straight saw often cannot be introduced, while one curved, likewise, in conformity to the floor of the nose meets with no obstruction. (Figs. 7, 8, and 9.) The

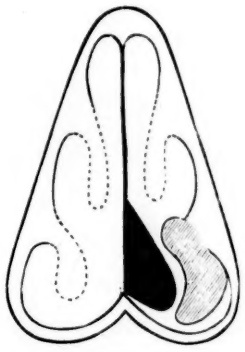

Figure 7.

teeth of this saw, also, cut upon the pull and not upon the push, an advantage, for the reason that on the push it is sometimes necessary to insinuate its distal extremity carefully between parts while on the pull its passage is free. Next followed reduction of the hypertrophies, the polypi being at the same time removed as fast as access could be gained. A fine-point electrode was insinuated beneath the middle turbinated body to one seat of origin, the

edge of the *hiatus semilunaris*, and finally, having tied the velum forward, a properly curved point electrode was introduced through the naso-pharynx and all remaining roots and small polypi which were located high up and posteriorily in the region of the superior turbinated body were destroyed.

One year after cessation of treatment Mr. B. writes as follows: "I have remained well, as far as any return of the polypi is concerned, I enjoy free respiration through both nostrils. On breathing with force through both nostrils I am unable to feel the slightest obstruction."

largement of the anterior end of the middle turbinated body. Polyp-buds may form over the surface and ultimately develop into myxomata, or a center of proliferation of the mucous element within the body of the bone may so develop as to cleave asunder the middle turbinated body, leaving a fissure down its center from which will protrude the polypi—a condition of which the following case is an illustration.

Miss P., æt. 20. Catarrhal symptoms for years.

Status Præsens.—Examination Sept. 11, 1886. Atropic naso-pharyngitis and horribly fœtid incrustation. The right middle turbinated body is much enlarged and has the appearance of two bodies because of the cleavage. (Fig. 10.) From this cleft protrude several small polyp, or polyp-buds, and others exist over the surface and in the immediate vicinity. A fine probe inserted into the cleft detects dead bone.

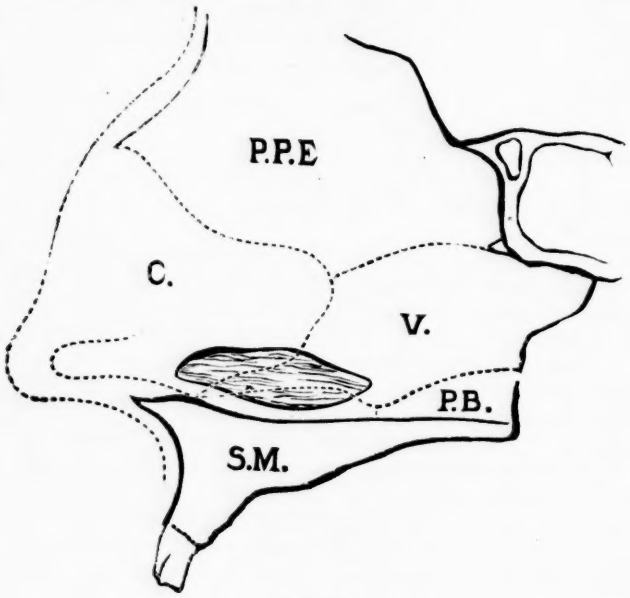

Figure 8.

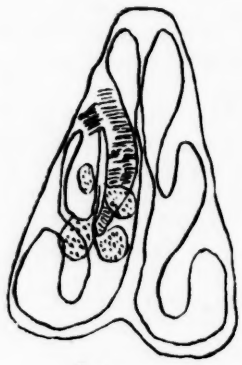

Fig. 10

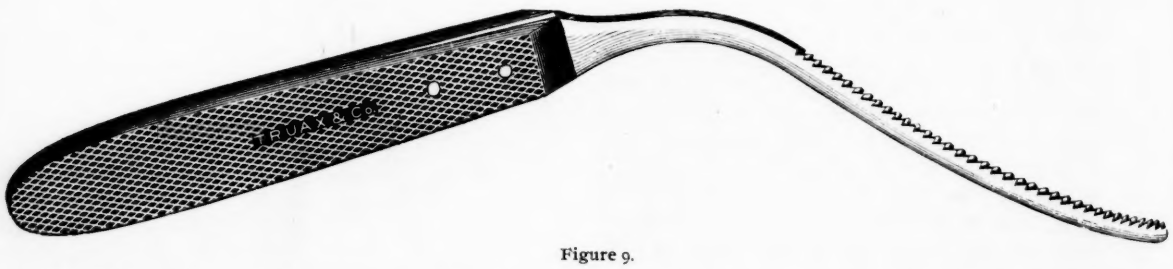

Figure 9.

Necrosing ethmoiditis of Woakes[4] also figures as a persistent cause and complication of nasal polypus. It involves the nasal tributaries of the ethmoid bone, especially its process the middle turbinated body. The *muco-periosteum*, already described as dipping, unseparated, into the spongy structure of the bone, undergoes inflammation, which cause the mucous element to proliferate in the direction of myxomatous formations and the periosteal stratum, also inflamed, to result in necrosis of the subjacent bone.

The earliest appearance of the disease is an en-

The removal of the entire necrosing turbinated body is sometimes practiced in such cases. In this instance it sufficed to cauterize thoroughly, introducing a knife electrode far up into the cleft and in like manner destroying diseased parts of the surface.

[4] Nasal Polypus, etc., In Relation to Ethmoiditis. 1887.

Under this and other appropriate treatment, the symptoms have been so ameliorated as to cease to be troublesome, and the polypi have not recurred. Necrosis once established, however, becomes an important factor in the persistence of inflammation of the soft parts and prolonged treatment may be necessary to eradicate the disease.

Necrosing ethmoiditis may exist without polypus, and polypus without necrosis. The assertion of Dr. Woakes that "when polypus exists necrosis is also present," is not confirmed by my experience, inasmuch as in the majority of the cases herewith reported the most careful search failed to detect necrosis.

Still another complication is illustrated by the case of Miss McC., referred by Dr. E. J. Gardiner. Multiple polypi occlude both nares, and extend backward to the naso-pharynx. An *hypertrophied tonsil* was necessarily abscised before access for light and instruments could be gained. Hypertrophic rhinitis also was reduced by the usual means. The case is still under treatment, but looks favorable to a permanent recovery.

Incrustation and infiltration of a myxoma with calcareous deposits may cause it to resemble an osteoma.

In such a case, observed in an aged person, the whole right naris above the inferior turbinated body was occupied by a fixed and impenetrable tumor. Excised portions of the growth resembled thick egg-shell, covered on its outer surface by mucous membrane and on its inner concave surface with myxomatous tissue, as if, in the course of years, the central part of the polypus had been absorbed, while calcareous deposition occurred in the enveloping membrane. The neoplasm was so firmly fixed to the nasal bones that it was deemed best to remove only a part of it, sufficient to permit of free nasal respiration. It evinces no disposition to redevelopment.

Other nasal neoplasms, by maintaining irritation and obstruction to drainage, may excite the development of myxomata. Dr. Christian Fenger[5] has described an osteoma which after removal was found to have attached to it several polypi.

In like manner myxomata may exist in mere association with primary carcinoma of the nasal and accessory cavities. In a case seen through the courtesy of Dr. Boerne Bettman, in 1887, the right nasal cavity was filled with a soft pultaceous ulcerated mass, which involved the antrum, orbit, and other accessory chambers. Carcinoma or sarcoma was evident. When first seen by Dr. Bettman myxomata only were visible in the naris, and several were removed by a snare. It is most probable that the malignant neoplasm originated in one of the accessory cavities and while extending to the naris excited a growth of myxomata.

[5] Living and Dead Osteomas of the Nasal and Accessory Cavities. Jour. Am. Med. Assoc., Vol. xi, No. 6.

Of course the transition of a benign myxoma into a malignant sarcoma or carcinoma cannot be regarded as impossible, since myxomata are histologically related to sarcomata, yet cases of myxoma which even suffer repeated surgical manipulation are so common, and such apparent transitions so rare, that, in the latter case, it were more reasonable to assume that the malignant disease arose primarily and that its presence excited a contemporaneous development of myxomata, as might any other irritant.

Physical Characters.—The form, aspect and consistence of a myxoma has been compared to a grape pulp. The natural shape is pyriform, but this is often varied by pressure. When small it is sessile, but it becomes pedunculated by gravity as development proceeds, and the point where the pedicle is confounded with the tissues of attachment is known as the "root." The color varies according to vascularization from gray to yellow, and from yellow to pink and red.

Pathological Histology.—A typical myxoma or "myxoma hyalinum" resembles in structure the vitreous body of the eye and the gelatin of Wharton of the umbilical cord. Microscopically there are observed either a few roundish cells, as in the vitreous body, or scattered fusiform and stellate cells which send off anastomosing trabeculæ, as in Wharton's gelatin, or both together, and these are imbedded in a large quantity of a homogeneous gelatinous mucin containing intercellular substance. Acetic acid causes opacity by the precipitation of mucin in a finely molecular state. Preparations hardened in alcohol or chromic acid give in undefined portions granular and fibrinous appearances.

Macroscopically the "myxoma hyalinum" is translucent, almost transparent, and of a pale yellowish hue.

But myxomata rarely appear in this purely typical form, the "myxoma hyalinum" being prone to transformation into allied histological structures or to be represented from the beginning by one of its modified forms. Of these the most common is the myxofibroma, which contains a greater but variable quantity of fibrous tissue. Those which are ordinarily called myxomata usually contain enough of the fibrous element to include them, strictly speaking, within the class of myxofibromata.

Multiplication of its round cells imparts to the myxoma a whiter, denser, less gelatinous and more medullary aspect, and it is then named "myxoma medullare."[6] If the spindle cells increase the transformation is into myxosarcoma; when fat is an element it becomes a myxolipoma; so also do we have the myxochondroma. Between these various neoplasms it is sometimes impossible to draw a distinct line of demarcation.

Myxomata are connective tissue growths, and

[6] Perls, Allgemeine Pathologie, S. 247

in addition to their occurrence as nasal polypi originating from the mucous and submucous tissues of the nose, they may originate from these structures elsewhere or in the intermuscular septa, nerves, subserous fat and periosteum.

Symptoms.—The chief symptom is nasal stenosis which increases with the development in size and number of the polypi, until complete obstruction of one or both nostrils results. Mucous or muco-purulent discharge, cephalalgia, aural complications and other symptoms of a catarrhal nature, together with those incident to mouth-breathing, are observed. To quote the words of a sufferer: "It affects the sight, the hearing, the taste, and the smell of course" Spasmodic asthma, paroxysmal cough and sneezing attacks are among the reflex phenomena which are occasionally excited. For diagnostic purposes it is usually only necessary to look with a good light and to feel with a probe in order to establish correspondence with the physical characters just described, but more rarely an accurate knowledge of all pathological states is essential to a precise diagnosis.

The treatment has been outlined in the relation of the cases. It consists first in the establishment of free nasal passage for respiration, drainage, vision and instrumental manipulation, and to this end in the reduction of hypertrophied turbinated bodies, the removal of septal excrescences, hypertrophied tonsils, etc.

To reduce the hypertrophied turbinated bodies the electro-cautery, applied by means of the point, knife, or snare electrode, is the most convenient agent, although chromic acid, carefully used, will suffice. One of the best methods is to employ a rather heavy point-electrode having its end slightly "curved on the flat" toward the side to be cauterized, and to draw this, in one application, three or four times, at a little more than cherry-red heat, through approximately one inch of the length of the turbinated body, passing each time through the same line until the soft tissue is penetrated to the bony base. From three to six treatments, in different lines on each of the lower turbinated bodies, may be required. Fewer suffice for the middle bodies.

Septal excrescences are removed by the nasal saw, chisel, or burr and trephine drills propelled by the surgical engine or electrical motor. The latter apparatus is more useful for drilling away projecting edges and corners after the use of the saw than for execution of the entire operation. A large variety of nasal saws is necessary in order best to conform to individual cases.

If the septum is seriously deflected it may be necessary to correct it.

Adenoid vegetations of the naso-pharynx must be cleared away.

While this work is progressing such polypi as can be reached should be removed, and others as rapidly as access is gained. This is done by the galvano-cautery snare, the cold snare, or fine polypus forceps, whichever seems best adapted to the individual polyp.

All operating is done under the local anæsthesia, and *retraction of tissues* produced by cocaine applied by spray in solution not to exceed 5 per cent., and on cotton not to exceed 2 per cent., and operating must cease as soon as hæmorrhage obscures the view.

But the real success of the treatment, after having gained access to the polypi, consists in tracing them to their points of attachment and in thoroughly cauterizing these so-called roots; if not at the same sitting, then at the next, remembering meanwhile the exact spot. Knowing the *hiatus semilunaris* to be a favorite point of origin, those polypi which proceed from beneath the middle turbinated body should be followed up by insinuating a fine electrode slightly curved on the flat to this point, and those which spring from the superior meatus posteriorly must be reached by a properly curved point-electrode introduced through the mouth and naso-pharynx, always under the best illumination.

The latter procedure is by far the most delicate part of the operation, and it is often necessary to tie the velum forward or to use a self-retaining palate retractor.

No. 70 Monroe St., Chicago.

THE IMPORTANCE OF LOCAL TREATMENT IN SYPHILIS.[1]

Read before the Section on Dermatology and Syphilography, at the Thirty-ninth Annual Meeting of the American Medical Association, May, 1888.

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There are few diseases like syphilis, for which our therapeutical actions are so well defined, for which we possess specific remedies, upon whose never-failing effect we count with nearly absolute certainty; yet nowhere is the Latin phrase equally true: *duo si faciunt idem, non semper est idem.* The where, when, and how to use those two chief agents, mercury and iodine, seems to be to many a *terra incognita*, and the prescribing of the mixed treatment forms the beginning and the end of their fight against that dread disease, in whatever phase it may be, whether it has attacked the skin only or other more important organs. The result of this *laisser aller* is often a very sad one, and many a perforated septum or palate, or even the loss of a considerable part of the nose is due to the fact that local treatment has not been given a proper place in the management of that case. This may sound somewhat hard, but I speak from ex-

[1] This paper was mislaid by the Section officers into whose hands it came. Hence its late appearance.

perience, and having observed a few such cases of late which impressed me very strongly, I have chosen this theme for my present paper. There is nothing especially new to be said in regard to this subject, at least not for those engaged in the special line of dermatology and syphilis, but it seems to me to be not at all superfluous to call the attention of the practitioners at large to the important rôle which local treatment plays in the management of syphilis, as the text-books usually touch this question in a rather superficial manner. In laying special stress upon local applications, I hope I shall not be understood as underestimating the necessity of constitutional treatment in every single case; this, of course, is a *conditio sine qua non*.

There is in nearly every stage of syphilis more or less opportunity for the successful employment of local remedies, while in some cases, mostly such showing tertiary forms, they are of the greatest importance.

In regard to the primary indurated sore, the majority of physicians to-day refrain from giving constitutional treatment and employ various local measures to secure a speedy cicatrization. The question of excision might well be discussed here, should it not abstract us too much from our theme; there can little be argued against it, when the localization allows it, as healing often takes place by primary intention. As regards its preventive effect opinions are divided. Believing the induration to be the sign of general infection, I fail to see how excision can abort the disease, and the reports of seemingly successful operations are surely capable of different explanations. In the management of hard chancre, it is always desirable to make the induration disappear as quickly as possible. For this end I have found the mercurial plaster a very valuable agent; it constitutes the simplest, cleanest, most practicable and efficacious treatment of the primary sore. As reference will again be made to this plaster, I wish to say that I always use that prepared and spread by Seabury and Johnson, which in every respect proved satisfactory.

After secondary symptoms have appeared, there is a very useful field for local applications. In selecting the plan of a general treatment I have always given preference to the time-honored frictions, which, in spite of all objections, still form the most reliable way to treat the earlier manifestations of syphilis. Besides their constitutional effect they have an undoubtful local influence upon the cutaneous eruptions, causing them to vanish usually very rapidly. Patients in private practice will mostly desire before all to have the visible manifestations, as on forehead and hands, disappear as soon as possible; for this purpose a 10 to 20 per cent. ointment of the white precipitate will often work like a charm, and this result will always be highly appreciated by patients in the better walks of life. Still, the papular syphilides on the palms and soles, the so-called psoriasis specifica, will occasionally prove very obstinate and will call for more energetic measures. Thus chrysarobin has been recommended by Reumont[2] and by Mosengeil,[3] who have successfully used it as an ointment of 10 to 20 per cent. strength. Sigmund[4] speaks very highly of a 1 to 2 per cent. solution of sublimate in collodion. This should be painted once or twice daily on the infiltrated plaques; fissured places, of course, should not be touched by it, these are best covered with strips of the gray plaster. Gilles de la Tourette[5] has found warm local baths with an addition of 1 part each of sublimate and of chlorate of ammonia to 2,000 parts of water, as very efficacious for that trouble. Papules appearing on mucous membranes, mostly in the throat, will readily heal when touched daily with nitrate of silver in strong solution or in substance, and under the use of an astringent gargle.

Of far more importance are topical applications for moist papules or condylomata lata, as these not only are the cause of much annoyance and discomfort to the patient, but also form one of the most common sources of syphilitic infection. As they are so easily reproduced by coaptation of opposing surfaces of the skin, as, for instance, in the genito-crural or anal folds, it is before all necessary to keep such places carefully separated by the application of absorbent cotton or gauze, and to scrupulously remove the fetid secretion by frequent cleansing with diluted sublimate solutions. For the removal of those characteristic vegetations developing so often on such places different caustic pastes have been recommended, but their application is attended with a great deal of pain. I usually prefer the cauterization with the silver stick, after previously anæsthetizing the parts by a strong cocaine solution. Moist papules on the corners of the mouth or between the toes are often very painful, but they heal readily when touched with nitrate of silver and covered subsequently with mercurial plaster.

There is rarely occasion to act against the swelling of lymphatic glands. I lately treated a young man in whom a group of infiltrated glands, situated betweeen the lower jaw and the mastoid process, caused a constant pain and great difficulty in swallowing. An ointment containing iodine, iodide of potassium and ichthyol reduced the swelling in two days and brought perfect relief. For suppurating bubos surgical interference will, of course, be necessary.

During any form of treatment with mercurial preparations the mouth will always require attention, as the saliva soon becomes impregnated with the drug and is the direct cause of mercurial stom-

[2] Chir. Centralbl., No. 3, 1880.
[3] Berl. Klin. Wochenschrift, No. 22, 1879.
[4] Wr. Med. Wochenschrift, No. 41, 1879.
[5] Progrès Médical, No. 30, 1886.

atitis. The most diligent care of the teeth and gums, abstinence from tobacco and irritant substances, and the frequent use of an astringent mouth-wash will greatly aid to delay this incident. Brockhart[6] recommends a solution of 5 to 10 parts of tannic acid in 20 parts of glycerine to 80 parts of water for this purpose. The gums may sometimes become so tender as to make mastication very painful and to necessitate an interruption of the administration of mercury. To overcome this the same author has suggested the use of a 10 per cent. cocaine solution, to be painted on the delicate parts a few minutes before meals.[7]

We have thus far seen that, during the earlier manifestations of syphilis, there are many indications for local treatment. In the later stages of the disease it becomes often imperative, and Hutchinson, who regards tertiary symptoms as mere local sequelæ, has gone so far as saying that only local remedies will lead to success in treating them, whereas constitutional treatment is of minor value.[8]. There is much truth in this. While general treatment, especially the use of iodides, is certainly capable of removing many of the symptoms incidental to the so-called tertiary period, it will be entirely unable to arrest the destruction which, for instance, serpiginous ulcers produce on the skin and mucous membranes, and here it is where local treatment is followed by the most brilliant results. Allow me to illustrate this.

Anna S., 16 years old, was brought to my office the 17th of December, 1887, through the kindness of Dr. C. Fenger, who in an accompanying letter asked me to conduct the medical treatment, while he later on should do the surgical part of the work. Without going into the details of the history of this case, which, from its aspect (general cachexia, Hutchinsonian formation of teeth, etc.), and from the anamnesis, had to be regarded as due to hereditary causes, I shall briefly state that the whole upper lip and both alæ nasi were the seat of those characteristic ulcerations resulting from the breaking down of gummatous neoplasms. The cartilaginous part of the septum was perfectly destroyed, only the small anterior cutaneous bridge remaining; accordingly the dorsum was depressed as a result of the defect. The anterior portion of the nose, where not ulcerated, presented that peculiar livid tint, and it seemed only too natural that the necessity of a rhinoplastic operation in the near future was suggested to Dr. Fenger. The affection was said to have begun with a peculiar eruption on the nose about one and one-half year ago, which was followed by a swelling of the upper lip. For the last six months she had been under the care of a prominent specialist for the diseases of the throat and nose. *Sapienti sat!*

I immediately began energetic local treatment by using the silver stick very liberally every second day. The patient was directed to clean the sores twice daily with a 1 per cent. sublimate solution, and to cover the same in the meantime constantly with the adhesive gray plaster. Iodide of potassium in daily doses of 2.00 was prescribed for internal use. The effect of this treatment was all I could hope for; within ten days the ulcerations were completely healed, a very smooth cicatrization having taken place, and the shape of the nose was preserved. By inserting two small rubber tubes the contraction of the scar tissues around the opening of the nose was prevented. The patient, of course, was only too glad to be saved the trouble of a plastic operation.

Cases like this are, fortunately, in our days not very common; but they must not happen at all, and to let the destruction go on undisturbed until an important organ is endangered, borders on criminal negligence or ignorance.

I have on record the notes of a case where extended, deep syphilitic ulcerations had existed and spread on the scalp of a man for over two years when I began to treat him, in December, 1886, after the principles just mentioned, and in less than two weeks perfect cicatrization had taken place, the patient remaing well ever since.

To the kindness of Dr. M. Mannheimer, of Chicago, I owe a very interesting case of a woman about 30 years old, whom I treated in the winter of 1884. She had been infected about 1½ yrs. ago by her husband, who confessed to having had an indurated chancre, but otherwise did not remember to have suffered from any symptoms of constitutional lues. The woman herself knew nothing of having had a primary sore, nor the usual secondary manifestations, but the first thing she noticed was the appearance, judging from her description, of a generalized rupia about a year ago, which soon became ulcerated. When I first saw her, she was simply covered with those horse-shoe formed sores; the whole scalp was one ulcerated surface, producing an unbearable smell. The back of the right hand was nearly perfectly destroyed, and about sixty more ulcers, from the size of a penny to that of the palm of a hand, were present on the rest of the body. The forehead, nose and chin were the seat of an ecthyma eruption. The patient suffered a great deal, and was hardly able to find comfort in any position. I ordered iodide of potassium 2.00 pro die in solution, a warm bath medicated by 10.00 of sublimate daily for an hour, emplastrum hydrargyri as a local dressing, and white precipitate salve for the face, while the scalp, for the first few days, was to be saturated with salicylated olive oil to facilitate the removal of crusts and detritus, and afterwards washed daily with sublimate soap and anointed with the mercurial salve. The sores were touched every third day with nitrate of silver. Healing soon began to take place on some of the smaller ulcers,

[6] Monatshefte f. prakt. Dermatologie, No. 8, 1885.
[7] Ibid., No. 2, 1886.
[8] Syphilis, Discussion, London Pathological Soc., 1876.

and after a little over two weeks the patient was completely cured, and only continued to take the iodide for some time. She has remained well ever since.

I could cite quite a number of other observations just as striking, but these few examples may be sufficient to show the efficiency of local treatment in these graver forms of cutaneous syphilis.

I wish to add only one word with reference to the cauterization by nitrate of silver, which I regard as a very essential part of the treatment. Its use was formerly accompanied by a great deal of pain; now I always employ previously a 5 to 10 per cent. solution of cocaine for a few minutes, by which it is possible to make that operation without the least objection on the part of the patient.

Ulcerating syphilides may occasionally become phagedenic and resist all kinds of treatment. For such cases Spillmann[9] has recommended the free use of Volkmann's sharp spoon, subsequent application of Paquelin's cautery and dressing with sublimate solution. I have so far had no occasion to resort to these radical measures.

It would be beyond the scope of this merely suggestive paper to speak at length about the treatment of syphilitic affections of the tongue, the nose, throat and larynx, the eye and ear, the bones, etc.; this must be left to those who make these organs their special study. What has been said in regard to the skin applies still more to them. When necrotic bones are the cause of a chronic ozœna, when a gumma is about to destroy an eyelid, when exfoliative perichondritis in the larynx may at any moment endanger the life of a patient, there is no time to wait for the effect of internal treatment; this will certainly in many respects be a valuable adjuvant, but only *local* applications will be able to arrest the destructive processes in those important organs.

MEDICAL PROGRESS.

FORTY-TWO CASES OF INTUBATION.—DR. F. K. PRIEST reports: In a series of 266 cases admitted to the Willard Parker Hospital, intubation was performed for the relief of laryngeal stenosis, in 42, or a little over 22 per cent. of that number, with a percentage of recoveries of 26.19. The majority of these cases were of undoubted diphtheria, with well-marked symptoms of laryngeal stenosis, at the time of admission, while many of them had been without proper care or medical treatment and well-advanced in the last stages of septicæmia, the operation being performed merely for the relief of the stenosis, with no hope of ultimate recovery.

Of the 42 cases 8 were cases of diphtheria complicating or accompanying other contagious diseases, as follows: 1 case of measles and diphtheritic conjunctivitis; 1 of varicella; and 6 of scarlet fever. In 35 of the 42 cases membrane was present in the throat or anterior nares, or coughed out either before or after the introduction of the tube; in the 7 remaining cases, the presence of membrane was not detected at any time during the course of the disease, although there was more or less swelling of the cervical glands with discharge from the nostrils. Only one of the seven recovered.

On admission in 29 cases, the symptoms of laryngeal stenosis were well advanced, 25 of this number being unquestionably diphtheria, and one case in which the presence of membrane could not be detected, a large piece was coughed out during the introduction of the tube. In 5 cases there was a hoarse, croupy cough without dyspnœa, and in 8 the laryngeal symptoms developed after admission. In all cases where the character of the dyspnœa and the general condition of the patient permitted of the delay, intubation was not resorted to until other means for the relief of the stenosis had been tried and failed to give more than temporary relief.

In 3 cases only, where the urine could be obtained, albumin was not found on examination, several dying from acute nephritis with suppression of urine, as occurred once five days after the removal of the tube, all local evidences of diphtheria having disappeared at the time. This one has been included in the list of fatal cases, as the patient was not discharged from the hospital, although it might be considered as a successful case of intubation.

In those cases that recovered, the average time the tube remained in the larynx was 6½ days. No definite rule, however, was followed as to the time of removal. In cases that were progressing favorably the tube was left in position until the membrane had disappeared from the throat and nose and the fever had subsided. The tube was removed in one case on the fifth day, the membrane being still present on the tonsils; on account of violent and persistent coughing and vomiting after taking fluids, the urine was also scanty, high colored, nearly three-fourths albumin; after which the cough was less troublesome, vomiting ceased, and the child took plenty of fluids; although the breathing was somewhat stridulous there was no return of the dyspnœa.

Coughing after drinking was a constant symptom and, in several cases, it was severe enough to induce vomiting. The above case was the only one, however, in which this symptom was severe or constant enough to seriously interfere with the ordinary feeding or treatment. The most troublesome complication, and one that in several cases was productive of very alarming symptoms, was from the collection of mucus in

[9] Ann. de Derm. and Syphilogr., 1885, p. 712.

the throat and consequent obstruction of the tube. This was found especially apt to occur in very young children during the night or early hours of the morning, the child being unable to expel, by coughing, the mucus that gathered in the throat during sleep; as a result the respirations became labored and, if not relieved, gave rise to intense dyspnœa, interfering with the circulation, and, in fact, all the symptoms of stenosis of the larynx. For the relief of this symptom syrup of ipecac, in doses sufficient to produce vomiting, was given with good results, the act of vomiting expelling the mucus, and relieving the dyspnœa without disturbing the tube. Emesis was thus induced several times in one case, which afterward recovered.

The removal of the tube was always followed by more or less stridulous breathing, lasting from a few minutes to several hours, and in several cases by dyspnœa coming on in a few seconds or minutes and rapidly becoming alarmingly stenotic, necessitating the immediate reintroduction of the tube. In a child one year of age, the tube was coughed out on the fifth day, symptoms of stenosis suddenly appeared and the patient became unconscious; tracheotomy was immediately performed. The child revived and was apparently as well as before the tube was removed, but died quietly 8½ hours after the operation.

In 3 cases, the removal of the tube was followed by symptoms that seemed to point to ulceration of the larynx or trachea, and in one in which a partial autopsy was obtained such was found to be the case.

In 3 cases of severe diphtheria, with nephritis, dying from the effect of the septic poisoning, in which slight dyspnœa was present, the tube was removed and found to be nearly filled with thick mucus and cheesy material, the patients breathing easily and naturally after its removal, without any return of the dyspnœa.

The average age was 2 years and 11 months; youngest 9 months, oldest 7 years. In 25 cases admitted with diphtheria in which a fairly accurate history was obtained, the day of the disease varied from the second to the ninth, the average being the fourth. Swelling of the glands of the neck was marked in 28, slight in 11, and absent in 3 cases.

Discharge from the nostrils was slight in 6, marked in 8, sanguineous in 11, and absent in 7 cases, although membrane was present in the anterior nares in only 13. When present in the throat the membrane was confined to the tonsils in 14, to the soft palate in 1, to the tonsils and soft palate in 8, and to the tonsils, soft palate, and pharynx in 9 cases.

In the majority of cases it was found very difficult to obtain a clear history as to the time of the first appearance of the laryngeal symptoms, *i.e.*, the croupy cough.

In 25 cases the time from the first appearance of the laryngeal symptoms to the introduction of the tube varied from 24 hours to 8 days, the average being about 4 days.—*Medical Record*, February 23, 1889.

PHENYL-PROPIONIC ACID IN PHTHISIS.—DR. C. THEODORE WILLIAMS, in a paper on "New Antiseptics in Phthisis," says of this substance:

Phenyl-propionic acid ($C_9H_{10}O_2$) is one of the numerous derivatives of coal-tar, and consists of acicular crystals of reddish-white color, insoluble in water, but dissolving in spirit (1 in 6), and giving a feeble acid reaction on testing. A saturated alcoholic solution was made and diluted with water, with which, however, it was found not to mix well, 10 minims requiring an ounce of water to keep it in suspension. When so dissolved it had a sour aromatic taste, not at all unpleasant, with a decided aroma, which often pervaded the air of the ward. The alcoholic solution was administered in 10-minim doses with an ounce of water, and was generally increased to 20 minims in 2 ozs. of water three times a day. This was the largest dose given. Twenty hospital patients were selected for the treatment, 6 males and 14 females. The ages of the males varied from 20 to 45, and that of the females from 14 to 41, the average age of the latter being 20.

Duration of Disease.—The cases were for the most part those of chronic phthisis, nine of them having been ill for at least two years, and some for longer periods, though in the rest the symptoms dated a few months back. There were the usual symptoms of phthisis, including much wasting and night sweats. One patient was a case of scrofulous phthisis; the rest were of the ordinary chronic tuberculous type. Pyrexia was present to a greater or less extent in four patients.

State of the Lungs.—Nine were cases of tuberculization, 6 of one lung, the right being the one attacked in 4 and the left in 2; 3 were cases of double affection, both upper lobes being the seat of tubercle. Cavities were present in 11 cases, more than half the whole number, 3 were single cavity cases, 1 with tinkling cavernous sounds, and the opposite lung free from disease, 1 a double cavity case, *i, e.*, with a cavity in each lung. The remaining 7 were cases of a cavity in one lung and tuberculization of the upper lobe of the opposite one. This gives a total of 11 cases of double affection against 9 of single affection. The case of scrofulous phthisis presented consolidation of both upper lobes with no cavity; there was considerable enlargement of the cervical glands. In 14 cases the sputum was examined for tubercle bacilli, and in 13 they were detected in varying abundance.

It will be seen that, judging by, 1, the large proportion of cavity cases; and 2, of double affection; and 3, the inclusion of some pyrexial pa-

tients, they were not very favorable specimens, and many belonged to the category of unfavorable cases.

The patients took the phenyl-propionic acid for periods varying from 28 to 85 days, the average being 46.7 days. As a rule it caused neither nausea, vomiting nor anorexia, except in 2 cases, in each of which the nausea was overcome by further diluting the medicine with water. The peculiar odor could not be detected in either the perspiration, the urine, or the fæces, in all of which secretions it was duly searched for. The patients took no other medicine, except alterative purgatives when necessary.

General Results. — Thirteen improved, 4 remained in a stationary condition, and 3 became worse. The improvement consisted chiefly in gain of appetite, strength and color (one interesting point being that in the pyrexial cases the phenyl-propionic acid exercised no influence on the temperature-curve); 14 gained weight, varying from ½ lb. to 5 lbs.; 4 lost weight, and 2 neither gained nor lost; the largest gain was 5¾ lbs.; the greatest loss 7 lbs. Of the 4 pyrexial patients, 2 lost weight; in 1 it was stationary, and 1 gained weight. The "first-stagers," or cases of tuberculization, did not seem to improve as much as the cavity cases, for while, out of 9 first-stagers, 5 improved, 3 remained stationary and 1 deteriorated; out of 11 third-stagers 8 improved, 1 remained stationary, and 2 became worse. The double cavity case improved greatly, and gained 3 lbs. in weight. From this we should be inclined to infer that phenyl-propionic acid exercises more influence on suppuration than on tuberculization.

Local Results.—In 5 patients the condition of the lung showed a distinct improvement, 3 being cases of tuberculization, and 2 cases of cavity with disease of the opposite lung; in 9 no change in the lungs could be detected after the treatment, and in 6 there was either advance or extension of disease, or both. These results contrast unfavorably with the general ones, and confirm a common experience in pulmonary disease, that general improvement is far easier to obtain than local quiescence. The medicine was not observed to diminish the amount of expectoration, or specially to reduce the cough, but decided increase of appetite, and gain of weight, color and vigor were noted in the cases "improved."—*The Practitioner*, February, 1889.

A New Form of Rectal Medication.—H. F. Meier suggests, for the rectal administration of glycerine, a suppository, prepared by the simple addition or the incorporation of a special kind of soap. This soap, characterized by extreme hardness, known as stearine soap, has the property of imparting to the glycerine in which it is dissolved the requisite degree of firmness. These suppositories, from the nature of the composition employed, offer the medicinal ingredients in as compact a form as possible, containing as high as 95 per cent. of glycerine. In this respect they offer a decided contrast to the form prepared by filling hollow cones of cocoa butter, and which, from the nature of the material, are of an uncomfortable size. The hygroscopic nature of the glycerine requires that reasonable precautions be taken to preserve the suppositories in a dry atmosphere, in order to prevent the accumulation of moisture on their surface and consequent dilution of part of the glycerine, with possible loss of activity.

The form adopted is a double-pointed cone. The closing of both sphincter muscles around it results in an upward movement, undoubtedly assisted by the impetus originally given. It has been found that this form offers the least amount of obstruction to such reflex peristalsis. Experience has shown that perfect solution is not indispensable to their activity, but that they are capable of provoking a laxative effect without a noticeable loss of substance. That the glycerine, however, exudes or escapes, so as to exert an effect, can be admirably shown by suspending a suppository at the surface of a test tube filled with water. This is accomplished by simply running a pin through the upper end of the suppository, the ends of the pin projecting over the tube. The glycerine can now be seen to escape and its rapid downward flow observed. These suppositories have been used extensively and with quite uniformly beneficial results, both in this country and in Europe. While it is possible to prepare a suppository which would be entirely soluble or nearly so, success has not yet attended the manufacture on a large scale of such with regard either to economy or safety, that is, as far as their keeping qualities are concerned. A suppository which, while possessing this apparently desirable feature of solubility, melts below the average temperature of the body, 98° F., cannot at the same time be either adapted or expected to withstand the vicissitudes of climate to which it would inevitably be exposed in different sections of a large country.

Cases have been met with in practice, in which these suppositories were not applicable; indeed, in which the introduction of any foreign substance except clysters is contraindicated. Considered from a physiological standpoint, the action of these suppositories would naturally be confined to the rectum and usually the lower part of the great intestine. Where obstruction exists in the intestines too far removed from the tracts just named, other means must necessarily be adopted. Frequently certain febrile or inflammatory conditions of the intestinal tract would alone preclude their use. Such contraindications are self-evident to the observing physician. While these suppositories have in many cases decided advantages over

like contrivances prepared from gelatin, unfortunately their range of application is limited. This results from the chemical nature of the agent employed to solidify the glycerine. It will be evident from these considerations that many medicinal agents, which it would be desirable to administer in the form of suppositories, would be incompatible with the base employed, while others not affecting the soap with resulting decomposition, can be employed to better advantage in this way than when cloaked with an excipient or carrier of a fatty nature.—*Druggist's Bulletin*, February, 1889.

CITRATE OF CAFFEINE IN ECLAMPSIA.—B. CORNEY reports a case of a woman, æt. 23, who gave birth to an undersized but full-time child at 7 A.M., August 21st, after an easy labor of three hours. About noon headache came on; at 9 P.M. vomiting took place, and at 11 P.M. convulsions set in, lasting, with intermissions, ten hours. The bromides, hyoscyamus, chloral hydrate, and chloroform did not seem to have much effect. The patient remained in a deep stupor for three nights, and the two intervening days. There was slight fever, a weak pulse varying from 80 to 132, great cyanosis, incontinence of urine, and left hemiplegia. As the vital powers appeared to be rapidly failing, it was necessary to take some decisive step. Corney objected to alcohol, because of the imperfect aëration of the blood that was going on, as evinced by the cyanosis. He was uncertain how much of the stupor and cardiac weakness was due to the disease, and how much to the bromide and chloral. Caffeine suggested itself, and he immediately injected grs. iij of the citrate dissolved with grs. iiss of sodium salicylate in ♏ x of distilled water. This was followed in an hour by six grains more given by mouth, and two grains every two hours afterwards for six doses. Some general improvement took place, the pulse bettered, and the attacks of lividity ceased. The paralytic symptoms diminished in degree, and towards dawn on the 24th signs of returning consciousness were observed. The caffeine was continued for two days, and from this time the patient made a steady recovery. A week later the only remaining abnormalties were a certain degree of muscular weakness and debility.—*Practitioner*, Feb., 1889.

PERMANENT SLOW PULSE AND URÆMIA.—Referring to those cases of permanent slow pulse (28 to 30 per minute), in which Charcot has said a medullary lesion must exist, DEBOVE has, in just such a case, examined the medulla and found no lesion. He recently had under his care a man of 80 years, who had been seized, during a course of dyspnœic attacks, with syncope and epileptiform attacks. His pulse was 32. His heart and lungs seemed normal. He was passing about 600 cc. of urine a day, which contained trom 7 to 8 grams of urea and no albumin. Milk diet caused diuresis, and an increase of urea up to 20.5 grams a day and the dyspnœa disappeared, the slowing of the pulse continuing unchanged. Gingeot has seen the pulse rise from 32 to 40 on the accession of acute bronchitis in a similar case, while the axillary temperature was 102°.—*Le Practicien*, Dec. 10, 1888.

MENTHOL IN PRURITIC AFFECTIONS.—Menthol is recommended by SAALFELD (*Deutsche Med. Wochenschrift*, No. 46, 1888), as exceedingly beneficial in cases of pruritis of various kinds. He prescribes it either as a wash or as a salve, the formulæ being:

I.	Menthol	1.5–2.5 grams
	Spirit vin. rect.	50.0 "

and

II.	Menthol	2.5
	Ol. Olivarum	7.5—10
	Lanolin. ad.	50.0

Both preparations have done him excellent service in uriticaria, pruritus cutaneous, and pruritus senilis.

A case of intolerable itching consecutive to otherwise successfully treated scabies was perfectly cured by applications of the following ointment:

Menthol	2.5 grams
Bals. Peruv.	5.0 "
Ungt. Wilson (Ung. Zn. benz.)	
Lanolin, pur. aa ad,	50.0 "
N. f. ungt.	

Menthol as a 10 to 15 per cent. ointment proved likewise very valuable in chronic eczema, even in quite inveterate cases.

SUPPOSITORIES FOR CYSTITIS.—

℞.	Iodoform	1¾ grains.
	Extr. of hyoscyamus	1 grain.
	Cocoa-butter	45 grains. ♏.

Make one suppository and introduce high up into the rectum.

The bladder should be washed morning and evening with lukewarm water. If there be any urethral irritation, a pill containing 1¾ grains of terpin should also be taken morning and evening. *Journal de Médecine*, January 6, 1889.

TO ABORT ACUTE BRONCHITIS DR. H. C. WOOD recommends

Potass. citrat.	℥j
Syr. ipecac	ƒ℥j
Succus limonis	ƒ℥ij
Aquæ	ƒ℥iij
	♏

S. Two teaspoonfuls every two hours.

WARMING MEDICINES BEFORE ADMINISTRATION.—LEWIN recommends the warming of medicines before administering, and of subcutaneous solutions as well. The absorption, he points out, is much quicker and the doses necessarily smaller. *The Medical Age*, February 29, 1889.

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IS THE ANTIPYRIN CRAZE HARMLESS?

The number of new drugs constantly recommended to the therapeutist is bewildering. The fertility of the synthetic chemists of Germany seems as exhaustless as the coal beds whence they derive their material. Yet it is questionable whether or not the practice of medicine is benefited by this multiplication of remedies. Paraldehyde, hypnone, urethan and now sulfonal, have all in turn been vaunted for their remarkable hypnotic virtues, and yet our old stand-bys, such as chloral hydrate, continue to maintain their supremacy. Some of the most recent testimony on this point has come from no less an authority than Dr. Huchard, whose conclusions were summarized in our letter from Paris in THE JOURNAL of February 23. He has tried sulfonal and found it inert in phthisis, heart disease, subacute articular rheumatism, neuralgia, etc., and therefore believes that its special sphere of action must be in nervous sleeplessness. In his experience it is not free from serious drawbacks, since it may produce an altogether too prolonged sleep and be followed by nausea, dizziness, a feeling of weariness amounting to great lassitude. It is likely, therefore, that none of these hypnotics will wholly supersede chloral.

But there is one group of coal-tar derivatives that has sprung into widespread popularity, and for which the demand seems not to abate. These are the antipyretics, and at their head stands antipyrin. Its sphere of action is wide, but our knowledge of its utility is almost entirely empirical. In addition to powerfully depressing febrile temperatures, it was found to possess remarkable influence over pain, particularly all forms of neuralgia. The result is, that not only do physicians prescribe it for headache, neuralgia, myalgia and the like, and throw it into the rectum to allay the pains of parturition and dysmenorrhœa, but druggists dispense it without requiring a prescription, and the laity keep it on hand, it might almost be said, *on tap*. Is this state of things desirable? It certainly is not, so far as the people and druggists are concerned, and in the case of physicians it may be fairly asked if such empiricism is not calculated to beget loose methods. The ultimate duty of the physician should be to heal by removing the cause, wherever possible, not to rest content with affording temporary relief only. Yet, with a means at hand of removing pain less injurious than opium, is it not a temptation to limit attention to the treatment of symptoms? If, nevertheless, it is urged that such use of drugs is not only legitimate, but actually good policy so long as they appear to be harmless, the query may be made in response, Is antipyrin so harmless as it seems? "Ay, there's the rub;" as yet but very little is known as to the effect of this remedy upon the physiological processes of the human body. A few facts, however, appear to be established. MM. Lépine and Porteret (*Comptes Rendus*, Nos. cvi and cviii), have found that when it is administered to guinea-pigs and when the fresh liver is immersed in a solution of antipyrin, the conversion of glycogen into sugar in the liver is hindered. To be sure, proportionately larger doses were administered in their experimentation than would be given therapeutically; yet, the prolonged or daily ingestion of this drug might produce a similar result in man. Accordingly, on this hypothesis, M. Germain Sée has employed it in diabetes mellitus and actually found a diminution in the amount of sugar excreted. Since, then, this function of the liver is thus limited, is it too much to assume that this organ may have its other functions deranged likewise? particularly, its conversion of nitrogenous matters of the food into urea. Furthermore, Sawadowski (*Centralbl. f. die Medicin. Wissensch.*, 1888, Nos. 8, 9 and 10), in experiments on dogs, discovered in animals with fever an increase in the amount of nitrogenous materials excreted, also that, in the strength of 2 per cent., a solution of antipyrin destroyed the red blood corpuscles,

and in the strength of 3 to 5 per cent. rendered the blood lakey. He furthermore found that, in large doses, it produced convulsions, and came to the conclusion that the emesis occasioned by it was because of action on the central nervous system.

It may be urged that the increased excretion of the products of tissue-waste produced by antipyrin in febrile dogs indicates a better elimination and not necessarily any actual augmentation of retrograde tissue change. On the other hand, since the febrile condition occasions a greater than normal destruction of tissue, it is probable that this process is really helped along by antipyrin. Indeed, there are facts drawn from *post mortem* observation that bear this out. We quote with reference to this point, from Prof. W. H. Porter's paper (The Etiology and Pathology of increased body heat in relation to disease and the use of Antipyretics), read last June before the Ontario Medical Association. Speaking of all the members of this group to which antipyrin belongs, he says: "Experimental study, however, shows that in large doses they produce a rapid and marked parenchymatous metamorphosis of the liver and kidneys, which is followed by albumen and casts in the urine. They are also thought to have direct depressing effect upon the medullary and spinal centres. This being true, is not their antipyretic action due to their causing a further increase in the functional and organic metamorphosis of the protoplasmic elements of the body, which disturbs still more the physiological processes of the liver, kidneys, and excretory organs, and thus cause a greater accumulation of the effete and toxic matter in the blood, until accumulation becomes so large that a state of general depression is produced, which throws the system into a condition strongly simulating that known as collapse, during which the temperature falls?" Further on occur these sentences: "Pathologically we find at the present time more marked and destructive parenchymatous changes in the liver and kidneys than was the case before the introduction and use of this group. In many instances the examination of the liver and kidneys has revealed a condition of granular and fatty metamorphosis equally as bad as that found in acute yellow atrophy of the liver, or in connection with acute phosphorus poisoning."

The analgesic qualities of antipyrin have led to its employment in cases of labor, and the reports of its influence over these pains are quite enthusiastic. But associated with this effect appears to be that of lessening the secretion of milk (*vide Medical News*, Dec. 8, 1888, a paper by T. Haven Ross, M.D.).

Whether these and other effects of this group of remedies are substantiated or not, there is ample clinical evidence that these are dangerous agents to trifle with. Hence, would it not be wise to exercise more caution in the administration of these powerful drugs than at present appears to prevail? Is it not high time that somebody called a halt in this present display of dangerous, though tempting empiricism? Can this antipyrin craze be said to be harmless? We think not.

ANÆSTHETICS IN DENTAL PRACTICE.

In THE JOURNAL of March 2 we noticed editorially a case of death from chloroform in a dentist's chair. DR. J. C. REEVE, of Dayton, Ohio, has kindly sent us the October, 1888, number of the *Dental Register*, containing an article on "Anæsthetics in Dental Practice" from his pen, which, on the subject of anæsthetics, is one of the ablest in the profession. Dr. Reeve says: "There is no professional duty I perform so unwillingly as that of administering an anæsthetic for dental purposes, no fee that I consider so hardly earned as that which I receive for this service. At the same time I am frequently giving anæsthetics for general surgical purposes without hesitation and without undue anxiety." Again he says: "Are anæsthetics more dangerous in dental practice than in general surgery? The answer must be unqualifiedly in the affirmative. Without attempting to collect statistics take only those of the Royal Medico-Chirurgical Society and those of Sansom.[1] The one gives 8 cases of death under tooth-drawing out of 100 of all operations, and the other 12 out of 107. Here then is nearly 10 per cent. of all the deaths occurring in dental operations. But this statement alone gives no just idea of the relative mortality. This could only be accurately ascertained if the total number of administrations in all surgical operations was known. Certainly anæsthetics are administered for general surgical

[1] On Chloroform, London, 1865, p. 69.

purposes hundreds of times for once in dental practice, and if so, then the relative number of deaths under tooth-drawing is enormously large. The causes of the high rate of mortality during this particular operation are not far to seek. I do not believe that the entrance of blood into the air-passage is very important. Several deaths, however, have been caused by an extracted tooth falling into the larynx, without doubt due to the position of the patient. Anæsthetics should never be administered unless the patient be recumbent. This is not, however, in my opinion, a very potent factor, and was fully considered in the paper. Another is the particular nerve involved in the dental operation, the acute pain caused by injuries to it, and the powerful effect of sudden impressions upon its branches upon the great and vital processes of respiration and circulation. By sudden impressions upon this nerve more than any other, is that inhibition of the heart's action brought about which is sudden death. Far more important than all, however, is the fact that the induction of anæsthesia for tooth-drawing is likely to be incomplete, and will pretty certainly be so if the operator is also the administrator. Now it is a positive doctrine of the highest and latest authorities that such reflex actions as above given are increased under chloroform, that a state of partial anæsthesia is therefore one of especial danger, and especially so if the pain produced is at once sudden and sharp.[2] It is gratifying, therefore, to see that this source of danger is fully recognized by the author of the paper, although it is not emphasized as it deserves to be. There is no more seductive procedure than to give a few whiffs of chloroform for the extraction of a tooth; there is no more dangerous practice. If an anæsthetic is given at all, it should be given until the patient is 'off.' There is no plainer doctrine than this connected with the subject."

Dr. Reeve wholly dissents from the doctrine that a full dose of whisky before the administration of the anæsthetic secures safety. There are on record many cases of death from chloroform in which an alcoholic stimulant was given just before the fatal inhalation. In regard to bromide of ethyl, Dr. Reeve thinks it is a dangerous agent, on account of its bad record, and its marked perturbative action on the heart. He does not know of such objections to the use of nitrous oxide as will justify dentists in resorting to stronger anæsthetics. The objections adduced, he says, "seem but trivial when the tremendous responsibility is considered which the dentist takes upon himself when he proceeds to administer chloroform or ether, when the awful calamity of a sudden death from these agents comes to mind."

It may be said, finally, that when a dentist administers chloroform for the purpose of pulling a tooth, he incurs a responsibility that he has no right to incur.

[2] See Lauder Brunton's Therapeutics, and Buxton on Anæsthetics, 1888.

EDITORIAL NOTES.

THE REMOVAL OF SIMPLE MAMMARY TUMORS by Thomas's operation, says DR. JOHN DAVEY HAYWARD, while manifestly advantageous, seems to be but little known and seldom practiced. The operation consists in making the incision along the curved groove formed below the breast, where it hangs against the thorax (the groove may be marked while the patient is in the erect position); the gland is very readily turned up from the muscle, and the tumor removed from its lower surface by a radial incision. The primary incision is made away from the larger supply-vessels; the weight of the breast obliterates the cavity, and the drainage tube may be removed on the second day; primary union is the rule. Dr. Hayward reports the removal of an adenoma, the size of a small orange, from the upper sternal portion of the gland by this method. It is impossible to find any scar or sign of interference without completely raising the breast.

THE OVARIES AND TUBES AFTER HYSTERECTOMY.—DR. J. GRAMMATIKATI has made a series of experiments, in the laboratory of Professor Lebedeff in St. Petersburg, to determine the fate of the ovaries and tubes after total extirpation of the uterus in guinea-pigs. His results are recorded in *Centralblatt für Gynäkologie*, No. 7, 1889. The guinea-pigs used were, some in normal condition, others in abnormal conditions of life. The abdomen was opened *lege artis*, and the uterus extirpated under the usual precautions in some of the animals; in others the uterus and tubes were removed; in still other cases one cornu only of the uterus was extirpated, with or without the corresponding tube. One ovary was re-

moved in all cases, in order to compare it microscopically with the other ovary, after sufficient time had elapsed for changes to take place in the second. From his experiments Grammatikati concludes: 1. After removal of the uterus the ovaries continue to functionate. There is no change in the process of ripening and bursting of the Graafian follicles, nor in the formation of the false corpora lutea. 2. Simultaneous extirpation of the uterus and tubes has no influence on the function of the ovaries. It appears, therefore, that both ovaries should be removed when the uterus is extirpated. Soon after completing his experiments, Grammatikati made an autopsy on a woman upon whom Lebedeff had performed hysterectomy three years before. In the ovaries were found Graafian follicles in all stages of development, and the ovaries showed no trace of atrophy.

AMERICAN PHYSIOLOGICAL SOCIETY; *Prize for Investigations in Regard to some Points in the Physiology of the Nervous System.*—With the wish to promote research in certain departments of Physiology, and to aid in defraying its cost, a member of the American Physiological Society has offered two hundred dollars for the best research or researches bearing on one or more of the subjects stated below, viz: "The rate of transmission of nerve impulses, afferent and efferent, and the duration of reflex and reaction time in the higher animals, especially man; also the conditions, normal and pathological, which alter such rates and times." The competition is limited to residents of North America, and the prize will be awarded for original work done after January 1, 1889. The award will be made by the persons that on October 1, 1890, constitute the Council of the American Physiological Society. In making its award, the Council will take into consideration researches of which printed or legibly written accounts, marked on the outside, "Nerve Physiology Prize," have been received by the then Secretary of the Society before October 1, 1890. To obtain the prize, a research must have a direct bearing on human physiology, and good researches on man will be preferred to similar researches on other animals; but experiments on mammals other than man, if applied to the interpretation of the phenomena of the human body and supplemented by observations on man, will have weight. Previous publication will not debar a research from the competition, provided the work has been done after January 1, 1889. The council reserves the following rights: to withold the prize if, in its opinion, no research presented is sufficiently worthy; to award only a part of the prize if, in its belief, a research, though meritorious, does not deserve the whole; to divide the prize between two or more candidates in ratios which seem to it just; and if it think it desirable, to require a competitor to demonstrate his experiments to a committee appointed by the Council. Communications concerning prize should be addressed to H. Newell Martin, Secretary, Johns Hopkins University, Baltimore, Md.

BEQUESTS TO WESTERN RESERVE UNIVERSITY.—The Dispensary of the Medical Department of the Western Reserve University, which is now largely maintained by the Hurlbut dispensary fund, consisting of $10,000 donated by Mr. H. B. Hurlbut, will soon be set on an independent footing. A wealthy local philanthropist has promised an endowment of $50,000 for the dispensary. Hitherto the work in this department was comparatively limited, but with this additional fund much good work is promised for the future. The Laboratory of the College is now being thoroughly refitted with new and expensive apparatus, and another local capitalist has given the faculty *carte blanche* to buy the best possible instruments wherever they can be purchased.

DEATHS OF CENTENARIANS.—Chesley Heal, born at Westport, Me., on November 16, 1778, died at Searsport, Me., on October 6, 1888, aged almost 110 years. He was a soldier in the War of 1812. It is said that he voted at every election from 1800 to 1880, his first vote having been cast for Thomas Jefferson. He lived an unusually quiet and orderly life, and it is said that he was visited by a physician but once during his long life. On March 1 Mrs. Margaret J. Mitchell, of Cleveland, Ohio, died at the age of 100 years and 2 months. She was born at Georgetown, Me., and lived in Maine until the age of 90 years.

OSSIFYING SARCOMA.—At a recent meeting of the Pathological Society of London, MR. D'ARCY POWER showed a very complete series of specimens of ossifying sarcoma. The case was that of

a girl, æt. 13, who applied for relief on account of a swollen knee, due apparently to tubercular synovitis. The knee rapidly increased in size, and the thigh was amputated in the middle third. Examination of the limb showed a large ossifying sarcoma surrounding the condyles, and extending along the shaft of the bone for almost six inches. A month after the amputation an enlarged gland was removed from the groin; it was so firmly attached to the femoral vein that an inch of the vessel was removed with it. This gland was two inches wide, and was so hard that it had to be divided with a saw. The patient died two months and a half later, and Mr. Power obtained a series of specimens showing the secondary growth in the lungs, ribs, and clavicles, and a large deposit in the ilium. The growths were all of the nature of round-celled sarcoma embedded in a vascular matrix of true bone.

THE ANTIDYSPNŒIC ACTION OF IODIDE OF POTASSIUM has been studied by PROFESSOR SÉE, who concludes that this drug antagonizes dyspnœa in a double manner: 1. By liquefying the products of catarrhal secretion that block the bronchi and hinder the entrance of air; and by facilitating gaseous changes between the intra-pulmonary and the ambient air. At the same time it acts on the respiratory centre and on the pulmonary circulation. 2. By causing a true pulmonary hyperæmia, which has the effect of accelerating the circulation and of increasing the changes. Venous stases disappear under its influence, asphyxia diminishes, and respiration becomes freer and easier. Iodine is not only a respiratory, but a pulmonary medicament. Whether the hyperæmiant action of the iodine is due to excitation of the vaso-motor centre, and especially of the vaso-dilator nerves or not, it matters little. Calmeil has shown that iodine accumulates in enormous quantities in the lungs, as well as in other organs, and facilitates the pulmonary circulation.

THE FORTIETH ANNUAL MEETING.—We desire to call special attention to the fact that the time for the annual meeting of the Association is not far distant. All members and others that contemplate contributing papers to the Sections should communicate with the officers of the Section, in which their papers will be read, as soon as possible. We learn that excellent programmes are already arranged for several of the Sections. In preparing papers for the Sections the rules of the Association, in regard to papers, should be borne in mind. These rules are printed in the department of Association News, where may be found also a list of the officers of Sections and their addresses.

ASSOCIATION NEWS.

American Medical Association. Fortieth Annual Meeting.

To be held at Newport, R. I., June 25, 26, 27 and 28, 1889.

Special Attention is called to the following Rules of the Association:

It shall be the duty of every member of the Association who proposes to present a paper or report to any one of the Sections, to forward either the paper, or a *title* indicative of its contents, and its *length*, to the Chairman of the Committee of Arrangements at least one month before the annual meeting at which the paper or report is to be read. It shall also be the duty of the Chairman and Secretary of each Section to communicate the same information to the Chairman of the Committee of Arrangements concerning such papers and reports as may come into their possession or knowledge for their respective Sections, the same length of time before the annual meeting. And the Committee of Arrangements shall determine the order of reading or presentation of all such papers, and announce the same in the form of a programme for the use of all members attending the annual meeting. Such programme shall also contain the rules specified in the By-laws and Ordinances concerning the consideration and disposal of all papers in the Sections.

No report or other paper shall be entitled to publication in the volume for the year in which it shall be presented to the Association, unless it be placed in the hands of the Committee of Publication on or before the first day of July. It must also be so prepared as to require no material alteration or addition at the hands of its author.

Every paper or address received by this Association, or by a Section, and ordered to be published, and all reports of Committees, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association.

ORDINANCES.

Resolved, That the several Sections of this Association be requested, in the future, to refer no

papers or reports to the Committee of Publication, except such as can be fairly classed under one of the three following heads, namely: 1. Such as may contain and establish *positively* new facts, modes of practice, or principles of real value. 2. Such as may contain the results of well-devised original experimental researches. 3. Such as present so complete a review of the facts on any particular subject as to enable the writer to deduce therefrom legitimate conclusions of importance.

Resolved, That the several Sections be requested, in the future, to refer all such papers as may be presented to them for examination by this Association, that contain matter of more or less value, and yet cannot be fairly ranked under either of the heads mentioned in the foregoing resolution, back to their authors with the recommendation that they be published in such regular medical periodicals as said authors may select, with the privilege of placing at the head of such papers, "Read to the Section of the American Medical Association on the day of 18 ." (Vide *Transactions*, vol. xvi, p. 40.)

Resolved, That no report or other paper shall be presented to this Association unless it be so prepared that it can be put at once into the hands of the Permanent Secretary, to be transmitted to the Committee of Publication. (Vide *Transactions*, vol xvii, p. 27.)

NOTICE TO EXHIBITORS.

Intending exhibitors should address Dr. Chas. A. Brackett, Chairman Sub-Committee upon Exhibits.

The following classes of applications will be entertained:

1. Medical books and stationery, charts and diagrams, busts, portraits, engravings, photographs, etc.
2. Hospital and ambulance plans and models.
3. Surgical instruments and supplies, general and special (gynæcic, obstetric, orthopedic, laryngeal, otic, ophthalmic, dental, etc.).
4. Microscopes, analysis outfits, and electro-galvanic apparatus.
5. Pharmaceutic products.
6. Rubber goods applicable to medicine and surgery.
7. Invalid furniture.
8. Invalid foods.
9. Sanitary appliances, as ventilators, filters, w. c. basins, traps, and similar necessities, and disinfectants.

As a large attendance is probable, while the space available for exhibits is comparatively limited, the advantage of early application will be perceived.

Choice of space will be given in accordance with the date of application.

Applicants should state the character of their proposed exhibits, that they may be assigned to their respective groups:

The Sub-Committee reserve the right of rejection, in case of apparent reason.

HORATIO R. STORER, M.D.,
Chairman Committee of Arrangements.

OFFICERS OF SECTIONS.

The first name given under each Section is that of the Chairman, the second that of the Secretary.

Practical Medicine: F. C. Shattuck, M.D., 135 Marlborough St., Boston; G. A. Fackler, M.D., 504½ Elm St., Cincinnati.

Surgery and Anatomy: N. P. Dandridge, M.D., Cor. 4th and Sycamore Sts., Cincinnati; W. O. Roberts, M.D, 1541 Second St., Louisville, Ky.

Obstetrics and Diseases of Women: W. H. Wathen, M.D., Louisville; A. B. Carpenter, M.D., 143 Euclid Ave., Cleveland.

State Medicine: J. Berrien Lindsley, M.D., Nashville, Tenn; S. T. Armstrong, M.D., U. S. Marine-Hospital Service, New York.

Ophthalmology: George E. Frothingham, M.D., Ann Arbor, Mich; G. C. Savage, M.D., Nashville, Tenn.

Laryngology and Otology: W. H. Daly, M.D., 71 6th Ave., Pittsburgh, Pa.; E. Fletcher Ingals, M.D., 70 State St., Chicago.

Diseases of Children: J. A. Larrabee, M.D., 1823 Baxter St., Louisville; Chas. G. Jennings, M.D., 544 Jefferson Ave, Detroit.

Medical Jurisprudence: Jas. G. Kiernan, M.D., Central Music Hall, Chicago; T. C. Evans, M.D., Cor. Ann and Aliceanna Sts., Baltimore.

Dermatology and Syphilography: L. Duncan Bulkley, M.D., 4 E. 37th St., New York; Wm. T. Corlett, M.D., Cleveland, Ohio.

Oral and Dental Surgery: F. N. Rehwinkel, M.D., Chillicothe, Ohio; E. S. Talbot, M.D., 125 State St., Chicago.

SECTION ON DISEASES OF CHILDREN.

Preliminary Programme for the Meeting of 1889.

The following named gentlemen have promised papers on the following subjects:

C. R. Earley, M.D., Ridgway, Pa., "Scarlatina."

John A. Robison, M.D., Chicago, Ill., "Treatment of Heart Diseases in Children."

J. C. Wilson, M.D., Philadelphia, Pa., "Abdominal Neuralgias of Children."

E. M. Brush, M.D., Mt. Vernon, N. Y., "Cows' Milk for Infants' Food."

David S. Booth, M.D., Sparta, Ill., "Epilepsy a Disease of Childhood."

The following have promised papers, but have not yet announced the subjects:

Edmund C. Wendt, M.D., New York, N. Y.
John A. Jeffries, M.D., Boston, Mass.
J. M. Keating, M.D., Philadelphia, Pa.

Wm. H. Edwards, M.D., Philadelphia, Pa.
Jerome Walker, M.D., Brooklyn, N. Y.
H. E. Pelle, M.D., Louisville, Ky.
W. B. Atkinson, M.D., Philadelphia, Pa.

Others that wish to read papers before this Section are requested to communicate with its officers.

SECTION ON STATE MEDICINE.

In addition to the list of papers published in THE JOURNAL of March 2, the following Committees will report, and papers be presented to the Section on State Medicine.

Report of the Committee on Uniform Medical Legislation in the United States. Dr. Perry H. Millard, Chairman. [At the last meeting this Committee was given another year to report.]

Report of the Committee on Fœticide. Dr. I. N. Quimby, Chairman. [This Committee was directed to report to the Section on State Medicine by resolution of the Association.]

"Medical Legislation in the United States," Dr. Perry H. Millard, St. Paul, Minn.

"Is it Detrimental to the Health of Passengers on Ship-board to Convey to Port the Bodies of Persons who Die at Sea of Non-contagious Diseases?" Dr. I. N. Quimby, Jersey City, N. J.

"Personal Disinfection in Scarlatina," Dr. L. D. Waterman, Indianapolis, Ind.

"The Climatic Causation of Consumption," Dr. H. B. Baker, Lansing, Mich.

"The Importance and Essential Needs of Local Boards of Health," Dr. W. C. Rives, New York, N. Y.

Announcement will be made in THE JOURNAL of the titles of the proposed papers as soon as the Secretary is notified.

SECTION OF LARYNGOLOGY AND OTOLOGY.

The Officers of this Section, which was created at the last meeting, have already received several promises from prominent specialists throughout the country, to read papers at the coming meeting. Several others have given partial promises, many of which, we believe, will soon be made absolute, and we feel assured already of a successful meeting.

We urge all laryngologists and otologists in the country, who have a local or National reputation, and who are in good standing with the regular profession about them to do something for the benefit of the profession through this Section. All are *specially requested* to send their names and addresses to the Secretary, whether they are likely to attend the meeting or not.

E. FLETCHER INGALS, M.D., Sec'y,
70 State St., Chicago.
W. H. DALY, M.D., Pres't.

SECTION ON OBSTETRICS AND GYNECOLOGY.

We are pleased to learn from Dr. Wathen, of Louisville, Chairman of the Section on Obstetrics and Gynecology, that he has the promise of forty papers for the Newport meeting, in June. The meeting of this Section will probably be one of the most interesting in the history of the Association, for nearly all of those who will read papers have done work of scientific excellence in obstetrics or gynecology. A programme of the Section will be published at an early date.

SOCIETY PROCEEDINGS.

Gynæcological Society of Boston.

Regular Meeting, November 8, 1888.

THE PRESIDENT, HORACE C. WHITE, M.D., IN THE CHAIR.

Alvah B. Dearborn, M.D., of Somerville, Mass., was elected to active membership.

DR. W. S. BROWNE showed a

NEW DEVICE FOR USING ADHESIVE PLASTER.

The strip of plaster is cut in two and the ends are reunited by a strip of thin rubber gummed to the back side of the plaster. The pull of the rubber, after application, keeps the edges of the wound in apposition.

DR. WHITE referred to the use of a strip of silk tulle secured in place by collodion as an excellent dressing for wounds.

PATHOLOGICAL SPECIMENS.

DR. F. L. BURT showed a pair of *ovaries and tubes* that had been removed the day before. The patient, who was about 50 years of age, had suffered for the last twenty-five years, and more especially during the last six years. A laparotomy was performed, making an incision rather longer than usual. Pus-tubes at once presented at the opening, each the size of the double fist. They were very firmly adherent and were removed with difficulty, together with the ovaries. The patient was comfortable when the case was reported.

DR. G. W. JONES exhibited some *membranous strips that came from a patient that had a history of an abortion* last February, and an operation for lacerated cervix last May. Two weeks ago he confirmed her supposition that she was about two months pregnant. A day or two later, she brought him a membranous sac which she said came away from the vagina. The sac, which was filled with jelly and contained certain granules, had burst. Last Monday he found a similar membranous sac presenting at the os uteri, which he removed. Both specimens were somewhat pear-shaped, the size of a silver dollar, and were corrugated. He had not decided upon their character. There had been no pain or hæmorrhage.

DR. C. W. STEVENS said that he had once removed from a young unmarried woman, who believed herself to be pregnant, a very large collection of little cysts, which was probably a mole or a cystic degeneration of the placenta. Previous to the removal of the mass there had been considerable hæmorrhage. He would suggest that Dr. Jones' specimens might be of this character.

DR. H. O. MARCY exhibited *two sets of ovaries and tubes* that he had removed about four weeks previously. The histories of the two patients were so similar that each might represent the other. Both patients were in middle age. One had been an invalid for twelve years, of which time the last six years had been passed in bed. The other patient had been an invalid for seven years, most of which time she had been in bed. Both had great pelvic discomfort for the whole period of four weeks, and to such an extent that both had become morphine *habitués*. The operations were performed in the ordinary manner with an incision in the median line about 2 inches long. Through this opening the ovaries were brought out one at a time, and the broad ligaments, while on stretch, were stitched across with a tendon by the shoemaker's stitch, which included the Fallopian tube close to the fundus uteri. The ovary and tube were then cut away, the peritoneal edges of the stump were sewed together with tendon, and the stump was dropped back into the pelvis. While these operations were being performed, a stream of nascent oxygen gas was directed downwards by means of a tube, the outlet of which was about a foot above the abdominal incision. Thus used nascent oxygen is claimed by some to be antiseptic. There is no foundation for this claim, but it is aseptic and, moreover, it is very invigorating to the operator and his assistants, and, in case of difficulty with the breathing of the patient, its easy accessibility might be very beneficial in restoring her respiration. These ovaries are all enlarged and they were still functionating when removed. The tubes are large and convoluted, and some of the processes of the fimbriated extremity are much thickened.

DR. MARCY also showed *a very large fibroid* that he had removed *per vaginam* from a patient, æt. 41, who had been healthy till two years ago, since when she had been constantly flowing to a greater or less extent. The os uteri was dilated to about 1½ inch and the whole pelvis was filled. The question arose, could the tumor be removed *per vaginam?* The attempt was made and it was removed in nine or ten pieces. The spoon-saw was first used and then the portion thus separated was cut away with curved scissors. This was repeated till the whole tumor had been removed. The cavity of the thin-walled uterus was then packed with iodoform wool. The patient made a good and rapid convalescence, and the uterus measured only 3 inches when she left the hospital. The tumor weighed about 3 lbs. Dr. Marcy said that two years previously he had removed in pieces a tumor which weighed 4 lbs., and that this is the largest on record as removed *per vaginam*.

DR. E. C. KELLER asked if the hæmorrhage continued at the menses?

DR. MARCY replied that the menstrual flow had been normal.

DR. KELLER said some time ago she had removed a tumor that weighed 14 ozs. The patient did well, but at the menses there was profuse flooding, which resisted everything till the ext. hydrastis canadensis fl. was used, and this acted like a charm. The dose was 20 drops three times a day. The uterus had decreased much in size and there was nothing in the cavity of the uterus.

The Society then discussed

SOME POINTS IN THE APPLICATION OF ELECTRICITY AS A MEANS OF TREATMENT OF FIBROIDS OF THE UTERUS.

DR. F. L. BURT referred to the pathological specimens exhibited by himself and remarked that they showed how useless it would have been to expect any good result from the use of electricity in this case, although it seemed to be a suitable case for its employment. As a matter of fact it had been tried, with the result of causing more pain and affording no relief. If administered in too strong current or for too long a time, it might produce sepsis and death. This was a case in which puncture would have been dangerous. Without doubt, electricity in suitable cases works well.

DR. C. W. STEVENS spoke of Apostoli's abdominal electrode of clay as a nuisance, according to his experience after faithful trials. It is filthy and wet, and it is difficult to keep it at the right temperature. In its stead he has had made and now uses an electrode (now exhibited) made of flexible sheet brass, rectangular in shape and about 7×9 inches in size. This is covered on its under side by a pad of several thicknesses of antiseptic gauze, cut in the same shape as the electrode and somewhat larger than it in size, so that, when the edges of the gauze are folded up over the ends of the brass plate, they can be held firmly in place by rubber bands slipped over the ends of the plate. This plate can be easily bent into suitable shape to fit the abdomen of any patient. It is simple and clean and, if desirable, the physician can have different ones for each patient. In using, the antiseptic gauze is wet sufficiently with hot water. The other pole he sometimes uses intrauterine and sometimes intravaginal. He has noticed the external measurements diminish 2 inches.

DR. A. P. CLARK said that McIntosh's diaphragm is a very ingenious instrument and it works well. He asked if Dr. Burt referred to galvanism in his remarks. If he had not meant

galvanism Dr. Clark might take exceptions, for he has found faradism to be very beneficial.

DR. BURT said that he has been using an abdominal electrode that he likes very well, and he believes it to be better than the one shown by Dr. Stevens. Cloth, of any desired size and number of thicknesses, is wet with warm water and laid on the abdomen. On top of this is placed a plate of block tin, which is heavy enough to stay in place and is a good conductor.

DR. H. O. MARCY asked, what is the effect on the skin of electricity passing through wet cotton?

DR. STEVENS replied: There is produced a temporary erythema or redness by congestion of the capillaries

DR. MARCY: What strength of current is used?

DR. STEVENS replied that he used no galvanometer and that he has been guided by the feelings of the patient.

DR. BURT replied that a current of 100 milliampères, which is the strongest he has used, produced a deep reddening of the skin with a sensation resembling that given by a mustard plaster, and this description of it is very frequently used by the patients. In a very few patients an eruption is produced, though he cannot tell why it is so. This is very similar to the eruption of chicken-pox. There are vesicles filled with fluid which is later changed to pus.

DR. STEVENS said that he had once seen an eruption similar to that described by Dr. Burt, and he had thought it due to the strength of the current.

DR. MARCY: Is the skin cool or hot to the hand after having used the cotton electrode?

DR. BURT: It is warm at first, but it cools rapidly.

DR. MARCY said that he has used Martin's electrode, which contains a considerable amount of cold water through which the current passes, and yet the patient at once complains of warmth. He feels sure that the thin cotton pad could not be used when such high currents are employed as he is accustomed to use.

DR. BURT remarked that he generally employs a current of from 60 to 70 milliampères. The patient never complains after it has been used and not especially at the time. He uses hot water for wetting his pad.

DR. MARCY said that Apostoli emphasized that the electrode must be sufficiently cold to cause the patient to shrink, when it is first applied, and that high currents must be used. Dr. Marcy himself has used as high as 350 milliampères in few cases of large growths. Apostoli says that we should intensify the current, and he sometimes employs stronger currents than Dr. Marcy has used. Dr. Marcy said that both Apostoli's and Martin's electrode fits all of the irregularities of the abdomen. Martin's electrode consists of a hollowed metallic disk, across the bottom of which parchment is stretched. The disk is perforated to allow filling with cold water, and the opening can then be stopped with a cork. About a pint and a half of water is used.

DR. BURT said that cold is not necessary when a light current is used and that heat is more agreeable than cold.

DR. WHITE: How long should a current of 100 milliampères be used?

DR. BURT: From six to eight minutes.

DR. WHITE: How long should the high currents be employed?

DR. MARCY: From five to eight minutes with 350 milliampères.

DR. WHITE: How often should they be employed?

DR. MARCY said in reply, that in a few cases he has employed it daily until five or six applications had been made. The positive pole in the uterus will necrose tissue, and hence there is pain and soreness. According to Apostoli sepsis should be emphasized; for the septic ferments may easily grow in such partially necrosed tissue, which forms a good nutrient material for them. About two and a half years ago there were reported here in Boston 12 cases with 2 deaths. These may have been caused by sepsis. Apostoli says that the vagina should be thoroughly clean.

DR. WHITE asked if any accidents had been caused by Apostoli's method. To this no one replied. He then asked if any good had resulted from Apostoli's method.

DR. W. S. BROWN offered the criticism that this was too narrow a question, since Dr. Cutter had used electricity for fibroids many years ago.

DR. MARCY said that Dr. Cutter used to employ great currents and that he used no measurements. Once Dr. Garratt had interpolated a galvanometer, which showed that the current was passing through from pole to pole, and thus answered the criticism that it passed around. At this time it was believed that electricity was too dangerous to be used. But the great secret of Apostoli's success is the use of one pole in the uterus and the large abdominal pad. In reply to the question, whether any good had resulted, he would say that at first he was a doubter, but after further conversation with Apostoli, when he came to Boston, he began to follow him. Dr. Marcy has now made several hundred applications to about twenty patients. Each patient thinks herself better, and he himself is sure that some are better. In one case, in particular, the woman could not walk across the street nor ride in a horse-car before the applications. The growth filled the pelvis and pressed on the pelvic organs. She received from twelve to fifteen applications of a current of 250 to 350 milliampères two to three times a week. Some months later the growth had diminished two-thirds or three-fourths, and the woman is now at work at her household duties.

DR. WHITE: How soon after the application should the patient be permitted to leave the office?

DR. MARCY replied that he never uses electricity for this purpose in the office. Dr. Smith, of Montreal, does so use it in some cases with apparent safety.

DR. BURT replied that he causes the woman to lie down for about half an hour after receiving an application of 50 to 75 milliampères. He had recently a patient who had nearly flowed to death, and there was necessity for either electricity or removal of the ovaries. He gave the positive current on the uterus with an aluminum wire electrode, which is claimed to be safe, but it does corrode, and when the eschar comes away there may be hæmorrhage.

Stated Meeting, December 13, 1888.

THE PRESIDENT, HORACE C. WHITE, M.D., IN THE CHAIR.

DR. W. SYMINGTON BROWN read a paper entitled

CHRONIC CYSTITIS IN WOMEN

in which he said: The bladder is almost as movable as the uterus. We are told in books that its transverse is greater than its vertical diameter; but I suspect that the proportions must be reversed when it holds a gallon of urine, as it sometimes does. Then, again, we are told and told truly, that highly concentrated urine irritates the bladder, and that the irritation may even end in cystitis. But it is not so generally known that "hysterical urine," of low specific gravity, almost destitute of saline ingredients, is also a common cause of irritation and pain.

Acute cystitis is a very rare affection in women; some authors say that it never occurs, except as a sequence of traumatic injuries. At one time many physicians believed that cystitis resulted from using forceps in labor; and I have no doubt that this erroneous belief acted as a bugbear to curtail the employment of that useful instrument. In our day, very few competent practitioners refrain from using forceps on this account. The probability is that cystitis more frequently results from long-protracted labors which should have been shortened by applying forceps or by turning. I have seen only one case of acute cystitis in a woman (apparently caused by swallowing tincture of cantharides with the view to produce abortion), and that case may have been due to other suspected agencies. I have also seen three cases in men, during our civil war, resulting from gunshot wounds in that region. Unfortunately, chronic cystitis is far from being a rare affection in woman. Many of the cases occur after tedious labors; a few are caused by errors in diet, such as highly spiced food, fermented liquors, etc.; but in my opinion, the larger number result from not emptying the bladder often enough. A false modesty and a genuine lack of opportunity combine to bring about this disastrous effect. It is a curious fact in the history of modern civilization that, with all our pretentions to gallantry, so little has been done in large cities to accommodate women in this respect. Some one has asserted that the amount of soap used in a nation is a fair test of the advance it has made in civilization. I would suggest, as an additional gauge, the number of public urinals for women and men.

When cystitis has lasted for years, the mucous membrane of the bladder may be detached in shreds, and the inflammation spread to the muscular and even to the serous coats. In most cases of long standing the bladder is contracted to one-half, or even less, of its normal capacity. The mouths of one or both ureters become thickened and congested, sometimes occluded, and the urine undergoes changes incidental to decomposition. Small quantities of blood, pus, and mucus frequently appear in it; and, instead of the normal acidity, it is voided in an alkaline condition. Under these circumstances, it is possible, and even probable, that the inflammation may progress upwards, affecting the ureters, and, finally, one or both kidneys. And it often happens that the cystitis excites a reflex pain in neighboring organs, sometimes in parts at a considerable distance from the original seat of inflammation. The treatment essentially consists in affording the bladder as much rest as possible, and in other ways allaying the inflammation. But to give rest to an organ constantly in use, night and day, must prove a somewhat difficult task. I have quite recently had a case, which occurred in a married man with a severe gonorrhœa, who was seized with typhoid fever, and after the usual watery stools for two days the urethritis abated. I attribute the reflex cure to the diarrhœa. Idiosyncrasies seem to affect the bladder even more than other organs; and in women more than in men, age must be taken into account. Before puberty, during the child-bearing period, and after the menopause, constitute eras during which bladder affections essentially differ. The following interesting (personal) case belongs to the last mentioned period. I first visited Mrs. B. on Christmas-day, 1887. She is a married lady with a grown-up family, about 63 years of age, who had always enjoyed health until 1884, when she began to suffer pain in the bladder, accompanied with frequent calls to urinate, night and day. During the whole three years she has never been able to retain her urine for more than an hour at a time, and sometimes she was obliged to use the vessel every half hour or so. Mrs. B. had been under the care of several physicians, regular and irregular. Although naturally of a placid, happy dis-

position, her face showed marks of suffering and anxiety. Pulse 85; temperature 99.5°. Her urine, drawn with a soft catheter, contained pus, mucus, and crystals of the triple phosphates. There was no uterine or ovarian disease. A small caruncle, growing at the lower edge of the meatus urinarius, was removed by means of a wire snare. A similar but smaller growth was found at the neck of the bladder, and this was also removed. For a period of six weeks, she took a tablespoonful of the following solution every four hours during the day; and also used it as an injection into the bladder every night and morning:

℞. Benzoic acid, pure . . . . . ʒij.
Biborate of soda . . . . . ʒiv.
Distilled water . . . . . ʒvj. ℳ

She took lithia water as a drink for several weeks, with apparent benefit. All kinds of fermented liquor were absolutely forbidden. Her diet was carefully regulated. Salt meat, salt fish, pork, lobster, beans, highly spiced soups, fried food, and pastry were prohibited. The usual directions to overcome constipation were given. Attention was paid to position in bed, by raising the pelvis with graded cushions, so as to avoid contact of the urine with the *trigonum vesicæ*, the most sensitive spot in the bladder. At the end of six weeks the urine was free from pus and triple phosphates, and it could be retained about two hours. Early in May, 1888, she considered herself cured. As the bladder had become much contracted, I made an attempt, towards the close of the treatment, to dilate it by means of tepid salt water from a fountain syringe. Dilatation should be effected very gradually; for there is some risk of paralysis from overdistention; and it seems possible, when the ureters are abnormally dilated, that the kidneys themselves may be injured. Reference was then made to the efficacy of hygienic, comfortable surroundings, admirable nursing and a contented coöperation on the part of the patient.

Dr. Henry M. Field was especially struck with the allusion to the relief or cure of gonorrhœa by the revulsive action of a sharp hydragogue cathartic influence brought to bear upon the bowels; because this practical point in therapeutics was seldom illustrated. Some years ago a quack in Paris coined golden opinions and guineas by the use of an anti-gonorrhœal, which, upon analysis by Fabre, was found to consist of a tincture of colocynth. Fabre's method consisted in giving the patient half a tablespoonful of the tincture (one ounce colocynth pulp macerated in one pint hock or sherry) before breakfast every morning; this omitted every fourth day, and the treatment continued until twenty-seven to thirty doses had been taken. Dr. Field had had success with this remedy, when the balsamic treatment alone had failed. The patient is thereby cleaned out, not alone as to the alimentary canal, but in blood-vessels; and the bitter of the tincture served as tonic and eupeptic. The application for similar principle in chronic systitis is obvious. He was surprised that Dr. Brown had not made allusion to the use of balsamic remedies. Dr. Field, for years, had made large account of turpentine and sandalwood oil. The very necessity of their elimination—their resinous matter being carried out of the system through the kidneys—assumed a local action of a partly counter-irritant and alterative character upon the cystic mucous membrane. They were not adapted to acute cystitis, but were very effective in the chronic variety of the disease. Quinia acts in much the same way. Dr. Field's first discovery of its virtue was an accident. He gave it to a patient who was nearly cured of inflammation of the bladder, but had reached the stage when he seemed to be standing still, simply as a tonic. The quinia took hold upon the bladder at once, and apparently completed the cure.

Dr. A. P. Clarke said that, in the main aspects, he coincided with the reader, especially in his remark that he had rarely seen cases of acute cystitis following childbirth. Retention of urine does often occur after laceration of the cervix and other injuries. Cystitis also follows caruncle, fissure of the urethra, and gonorrhœa. Cases of idiopathic cystitis are not as common as has heretofore been believed. Cystitis often results from falls, blows, flexure of the uterus, great distention of the bladder, and unskillful employment of the catheter. The extension of inflammation from vulvitis and vaginitis is an occasional cause of vesical disturbance. So also is the increased vascularity in the parturient women liable to produce over-distention and vesical inflammation. He regarded the mucous coat of the bladder as most sensitive to inflammation; thence the inflammation is liable to extend to the other coats and adjacent structures. Sometimes the disease extends to the uterus, the kidneys, and peritoneum. Under such circumstances treatment will often prove quite unsatisfactory. He is accustomed to use the hot-pack, hot douches, and baths. Electricity (in the form of Faradism), with one pole near the urethra and the other over the bladder, gives relief after the lesions have been attended to. Saline laxatives and mineral waters sometimes help. Bland diluents are of the greatest benefit, especially where the urine is loaded with abnormal products. Opiates are to be avoided as much as possible, and, when used, their local employment is to be preferred. Benzoic acid, in combination with borax, mentioned by the reader, is an old remedy, but it has been a favorite one with the speaker since its endorsement by Dr. Emmet several years ago. Washing out the bladder is often of much benefit; but extra care should be exercised lest the mucous

and muscular coats (which have frequently undergone degeneration) be overstrained, and permanent injury follow. In cases of protracted inflammation, washing out the bladder with a solution of nitrate of silver, (30 grains to the ounce) often yields excellent results. Attention should also be given to the diet. Butcher's meat should generally be avoided, as it is liable to increase the urates and other morbid products which irritate the urinary passages. Dr. Clarke had seen a few cases following delivery; but there was generally a previous history of catarrh in the bladder or gonorrhœa. In one case a large calculus was found in the bladder. Dr. Emmet's operation for an artificial vesico-vaginal fistula is a valuable expedient in severe cases. Dr. Clarke also mentioned a case in his own practice which was permanently relieved by rapid dilatation of the urethra. Since then he has continued to resort to that method in cases where tenesmus is a marked feature, and where the parts around the meatus are contracted and hypertrophied.

DR. OTIS E. HUNT asked if an attack of cystitis occurring a week after delivery in a forceps case would not be called acute traumatic cystitis? [Answer by Dr. Brown: Yes; but I have not seen one.] Dr. Hunt said that he has seen it several times. Little benefit can be obtained except: *a*. From position, which should be horizontal, with the pelvis a little elevated. *b*. From the hot pack (especially in an attack of acute cystitis). A napkin, folded in several thicknesses and of sufficient size, is wrung out of hot water and placed on the abdomen over the bladder. This should be covered with rubber tissue, and this in turn with several thicknesses of flannel, covering a considerably larger extent than the wet napkin itself, and the whole held in place with a bandage. It should be changed twice a day. *c*. From continual drainage. For this purpose the hard rubber catheter has failed; but a soft rubber male catheter of large size, introduced with the aid of cocaine, and retained by plasters around the body, serves an excellent purpose. This may be retained for weeks, the end of the catheter being put into a bottle, which may be kept in the bed to catch the urine. *d*. From internal irrigation through the kidneys. Large quantities of water must be drunk. The patients will not take Cochituate or other common water, but they will drink two or three quarts of Poland water. This not only dilutes the urine, but it actually washes out the urinary tract. *e*. Also from external irrigation, which is done by attaching to a fountain syringe a catheter with a forked tube, provided with a stopcock. The bladder is first filled; but should not be too much distended, and then it is allowed to run out and the bladder is again refilled. This is repeated for ten or fifteen minutes. For the irrigation fluid plain water is used, or a little borax may be added. The temperature of the water is a very important point; before stating the degree that he considered best, the speaker asked Dr. Brown what temperature he preferred. [Answer by Dr. Brown: Blood heat, *i. e.*, about 100° F.] Dr. Hunt said that he also considered this to be the proper degree, and he has seen harm result from the use of water of too low temperature. He has not derived much benefit from internal medication. In the late stages he uses buchu, but does not believe that it does much good, except as a placebo.

DR. J. F. FRISBIE said that he had not had much experience in this class of cases. The last case he saw followed a very severe childbirth. In reply to his questions he was told that the woman had passed urine freely. On the third day there was much pain, and then he found out that there had been only dribbling. She had acute cystitis, which lasted fourteen days. He prescribed sulphate of magnesia, and she drank Apollinaris water freely. The wet pack was used, and there was a good recovery.

DR. L. F. WARNER said that this class of cases is one of the most difficult that he has been called upon to treat. He has seen a great many cases of acute cystitis, and he believed that most of the chronic cases were once acute. Occasionally cases are seen which have been caused by prolonged retention, *e. g.*, in the case of shop-girls. The urine decomposes in the bladder and it contains bacteria. He thought that Dr. Hunt's treatment was good, but that it alone would not cure very bad cases. In acute cases he always gives calomel, Dover's powder, and hyoscyamus. Fifty years ago dependence was largely placed on derivatives in the treatment of gonorrhœa. Epsom salts were always used, and the patients learned to expect them. In chronic cystitis he had obtained the best success from the use of irrigatives, and he prefers a solution of corrosive sublimate, followed by iodoform. He uses a double canula with a stopcock, and a fountain syringe. He first washes out the bladder thoroughly with water at 100° F. The bladder is gradually filled with water till the patient begins to complain, then the stopcock is opened, and an outflow is made, while at the same time the corrosive sublimate solution is allowed to run in. It is quite important to keep the bladder distended, so that the fluid may come in contact with all portions of the mucous membrane. The irrigation is continued for some time, and is followed by an injection of iodoform, which is left in the bladder. The urine should be kept as nearly neutral as possible. In reply to the question as to the strength of the solution of corrosive sublimate that he would recommend, Dr. Warner said that the sensibility of patients varies: one will bear 1 to 5,000, while others will not bear 1 to 10,000. He begins with a weak solution and feels his way along. Sometimes a douche into the bladder of a solution of

quinine (*e.g.*, a drachm to a pint of water) will give much relief. A solution of the sugar of lead was used in one case. He emphasized the importance of getting the system into as good a condition as possible to secrete healthy urine.

DR. FRISBIE asked if it is especially advantageous to have the water boiled before using?

DR. WARNER: I don't know about that. It is always easier to bear than cold water.

DR. HUNT asked if frequent micturition is not often relieved by drainage by means of a retained catheter?

DR. WARNER replied that that is true if the patient can bear it. The effect of cocaine, which has been suggested, is not lasting.

DR. W. S. BROWN emphasized that the continued use of cocaine is dangerous on account of its constitutional effects.

DR. F. L. BURT said that this is a most important class of cases, and one most difficult of treatment. Some cases can only be cured by making an incision into the bladder through the vagina, *i. e.*, by making an artificial fistula, and thus securing drainage. Irrigation is an important factor in the treatment. In one case, a douche of corrosive sublimate (1 to 2,000) cured a cystitis of twenty years' duration. Some cases, however, are not apparently affected at all by the irrigation. He has lately seen a case in which a 1 to 500 solution had no effect. He believes that one important cause of cystitis is the continual flowing over the meatus of a 1 to 2,000 solution of corrosive sublimate for an operation. To avoid this, after commencing with the sublimate solution, he concludes the operation by substituting hydronapthol.

DR. J. H. WOODS said that he saw a case two years ago that was cured by the use of Poland water. The young man had had an attack of gonorrhœa, and he was passing very acid urine. Alkalies were administered without any effect. After a time he passed into the hands of a homœopath, who flushed him with Poland water and cured him.

DR. A. L. NORRIS had seen a few cases following difficult labor. He had been accustomed to treat them with irrigation, for which he employed a double silver catheter. These douches were given twice a day for several days, with excellent results. Hot fomentations are of benefit, as also are alkalies and anodynes given internally.

DR. HUNT asked if the catheter had been used in these cases before the cystitis had appeared?

DR. NORRIS replied that it had; but that he was accustomed to use a new catheter for each patient.

DR. HUNT said that he had a suspicion that many attacks of acute cystitis were caused by the introduction into the bladder of foul discharges from a catheter that had not been thoroughly cleansed after using.

DR. BURT said that the catheter was a very important factor in the causation of cystitis. Many old men use their catheter several times a day, lay it upon their bureau, and have no bad results; but women cannot do so. Not only must their catheter be carefully cleansed, but the external parts must be washed.

DR. NORRIS had never thought it necessary to wash the parts before using the catheter in a parturient case; but he thought the point worthy of consideration.

DR. BURT thought it a good plan to wipe the meatus with cotton wet with some antiseptic solution, and then press it down so as to separate the vulva, and leave it there.

DR. HELEN L. BETTS referred to attacks of vesical irritation due to pressure of the clothing, which were relieved by the removal of pressure and weight.

DR. HUNT wished to emphasize the point noticed by the reader of emptying the bladder as often as the desire occurred.

DR. S. N. NELSON said that the urine in cystitis contains a greater or less amount of pus in the sediment, and there is present a small amount of albumen proportionate to the pus. Bacteria termo are found in great numbers. The most important factor in the causation of cystitis, whether in man or waman, is the introduction into the bladder of bacteria, and, as a consequence, a fermentation of the contents of the bladder is set up. In this way may be explained most of the cases which have been referred to as occurring during an attack of gonorrhœa, or after labor. The means by which the germs are most commonly introduced is the catheter, which has not been properly cleansed. To avoid this, it is a good plan to soak the soft rubber catheter in a solution of corrosive sublimate (1 to 2,000) before its introduction; and, in the case of a patient who requires its use constantly, it may be left in soak when not in use. The meatus and vulva of the woman should be carefully cleansed with sublimate solution before the introduction of the catheter, and it is always a good plan to bring to aid the sense of sight when passing the catheter. If, unfortunately, in spite of all these precautions, an attack of cystitis is induced, or if a case is seen where the chronic stage has been reached, Dr. Nelson believes that more good can be done by local than by systemic treatment. In acute cystitis the drinking of large quantities of water so as to flush the uriniferous tract is an excellent procedure. It matters little in what form the water be taken, so long as the quantity is large. The imbibition of mucilaginous substances is desirable; and for this purpose flax-seed and slippery-elm teas are to be recommended. As an adjuvant, the neutralization of the urine until litmus paper no longer turns red is a great comfort to the patient; for, in acute cystitis, the urine has

become unduly acid, having undergone the acid fermentation in the bladder. This is easily effected by administering citrate of potassium. Local treatment, however, is the most effectual, both in acute and in chronic cystitis; and for this purpose irrigation by means of a double-tube catheter of soft rubber is best. The irrigation fluid should be a solution of corrosive sublimate as strong as can be borne. This will vary from 1 to 10,000 to 1 to 2,000, according to the temperament of the patient and the condition of the mucous membrane of the bladder. The water should be boiled to kill the germs contained therein, and then cooled. In acute cystitis a solution of boracic acid may be advantageously employed for half an hour to an hour, in order to thoroughly cleanse the inner surface of the bladder, and the irrigation may then be completed with the sublimate solution, which should run from 10 to 20 minutes. The irrigation fluid is most effectual when somewhat warmer than blood heat, say about 102° F. After washing, the injection of an emulsion of iodoform is a good thing. The irrigation may be employed as above, once or twice a day, in aggravated cases.

DR. W. S. BROWN, in closing the discussion, said that he had left out the surgical treatment in his paper. There are many cases in which it is necessary to open the bladder by making an artificial vesico-vaginal fistula. This is good practice in hospitals, but it cannot be carried out so well when the patient is at home. Dilatation of the bladder should be carefully and cautiously attempted, because in some cases the bladder wall is thin, the mucous and muscular coats have disappeared, leaving only the serous coat, and rupture may occur after even moderate pressure.

DOMESTIC CORRESPONDENCE.

LETTER FROM NEW YORK.

(FROM OUR REGULAR CORRESPONDENT.)

Radical Cure of Inguinal Hernia — Surgical Treatment of Uterine Retroversion—New Method of Shortening the Round Ligaments—New York County Medical Association.

At the first regular meeting of the Academy of Medicine at which the new President, Professor Loomis, occupied the chair, Dr. Charles McBurney, whose admirable operation has of late become so popular among the surgeons of this city, read a paper on *The Treatment of Inguinal Hernia with Reference to Radical Cure.* As an introduction to the exposition of his own operation, which he said had been the result of much thought and labor, he presented some of the considerations which had led him to attempt a procedure different in some respects from any that had preceded it. In 1886 he met with some cases in which a return of the trouble after operations for the radical cure of hernia convinced him that one great essential to success in any such operation was the complete removal of the sac. The first predisposing cause of hernia he believed to be the pouching of the peritoneum at the internal ring, and therefore, in order to cure a hernia, it was necessary first to prevent laxity at this point, and then to support the peritoneum firmly at this point. He referred to various procedures designed to completely eradicate the sac, and gave a somewhat detailed description of Macewen's method. This operation, when practicable, he said, undoubtedly removed the sac; but it was often difficult or impossible to carry out. In selected cases, however, remarkable results had been obtained with it. Ball's method of twisting the sac he spoke of as a somewhat blind one, not free from serious objections; while some sacs also were altogether untwistable.

In his own operation Dr. McBurney splits the anterior wall of the inguinal canal all the way up to the internal ring. This procedure he supposed at first was original with himself, but he afterwards learned that it had been previously practiced by Riessel. This, he said, exposed the whole length of the sac, and when this had been done the neck of the latter could be disposed of either by ligature or by suture. In this way it was very easy to restore to the peritoneum the natural smoothness which he regarded as another of the great essentials to success in any operation for the radical cure of hernia. In all cases where it is applicable he much prefers the ligature to the suture. The only certain method of closing the entire canal except that portion of it occupied by the cord, he went on to say, he believed to be the open treatment of the wound, and even this was very difficult in some respects. It was requisite, for instance, that the whole wound should be packed extremely closely in order to secure granulation throughout its entire length. The objection had been raised against cicatricial tissue that it melts away and in time yields, and it had also been urged that cicatricial tissue does not prevent the frequent occurrence of ventral hernia after laparotomy; but he was firmly convinced that the cicatricial tissue here was sufficiently strong and permanent for all practical purposes, while the circumstances after the operation referred to were entirely different from those met with after laparotomy. Some operators had practiced the method of sewing up or narrowing the internal ring; but in reality, since the ring was naturally open quite wide, the stitches were of no avail in narrowing it.

He then proceeded to give the details of the operation employed by him for the past two years. Careful antiseptic precautions having been taken, a free incision is made, beginning a little outside the internal ring, and this is rapidly deepened

over the whole length of the canal. The canal, when reached, is split up to the outer edge of the internal ring, and the deeper layers of the sac having been dissected off, the cord is separated from the sac up to a point a little within the abdomen. The sac is freed from all adhesions and omental attachments, if there are any, and is then held high up from the internal ring, in order to prevent the return of any portion of intestine or omentum; when a ligature is applied at the very highest point. In congenital hernia, however, it is often necessary to suture, instead of ligating.

The wound is left entirely open, and from four to eight stitches are used to fix together the skin and the tissues which form the upper wall. As many more are employed for the lower wall; but as the wound is unnecessarily wide, some tendon sutures are usually passed deeply through the skin and superficial fascia. Iodoform is freely dusted about the wound, and then it is very thoroughly packed with iodoform gauze. The rectal end of the wound, however, is sewed up without a packing, and a drainage tube inserted at its lower extremity. Great care is used in making the external dressings, and in order to prevent contamination by urine rubber bandaging is employed in the case of adults and a plaster of Paris casing in children. Frequently, also, the urine is drawn with a catheter for several days succeeding the operation. At least five or six weeks are required for the healing, but Dr. McBurney believes that this comparatively long period in the prone position is time well spent in such cases. None of his patients are allowed to wear a truss or support of any kind after the operation, as he regards such appliances as positively injurious under the circumstances.

The advantages which he claims for the operation are as follows: 1. It is the only method in which the sac is completely obliterated. 2. The walls are very firmly united throughout their length. 3. The wound being open, septic complications are avoided. 4. The rapidity with which the operation can be performed renders it applicable in all varieties of cases. He said he had now employed this method in thirty-six cases. There was one fatal case, but this result was due to alcoholism. In three the wound became infected and the healing was slow; although there was no general sepsis in any of them. In one case orchitis was set up, and in one there was a relapse of the tumor; the cause of this relapse being without doubt, in his opinion, the fact that the sac was not ligated sufficiently high up. In conclusion, he said that within the past week he had either personally seen or heard from thirty-one of the cases, and that the result in all was thus far perfect. Of the remaining cases, two could not be found, and two were still under treatment. The various steps of the operation were very clearly shown by means of large colored drawings taken from life, and at the end of the paper Dr. McBurney presented a considerable number of the cases operated on for examination.

The surgeons who took part in the discussion were all unanimous in according the highest praise to the operation, Dr. L. A. Stimson, the first speaker, thought Dr. McBurney was deserving of special thanks for his use of the cicatricial packing to the peritoneum, as he thus came squarely out against the ancient idea that cicatricial tissue was weak and untrustworthy. One of the chief advantages of the operation, and one which had not been particularly dwelt upon in the paper, he said, was the very great freedom from the risk of septic processes which characterized it. There was no necessity for drainage, and no drainage was employed except at the lower end of the wound in the scrotum; the wound above being left entirely open. As to the simplicity of the operation in the matter of ligating the neck of the sac, and restoring the peritoneum to its normal state, he had nothing but the warmest admiration to express for this also.

To realize the full advantages of the operation it was only necessary to consider the alternative measures which were at our disposal for treating the canal; all of which were comprised in an attempt to restore the original canal. In many old hernias, however, there was in fact no longer any canal. The internal ring was dragged down until it overlapped the external, and there remained simply a hole covered on one side by the peritoneum, and on the other by the skin and subcutaneous fascia. There was a complete absence of the valvular arrangement of the sides met with in the normal canal, and while many surgeons had attempted to restore this valve-like arrangement, they had always failed. Now, if we could not restore the canal, some alternative for this must be sought; and this formation of a plug of cicatricial tissue for supporting the peritoneum seemed to him a most excellent device.

Dr. Gerster, while expressing great admiration for the McBurney operation, thought it was as yet too soon to decide as to its permanent value; time being the only test for such procedures. In many old cases of hernia, with widely dilated ring, he did not consider it necessary to slit up the anterior wall of the canal, as he believed that the upper part of the sac could be reached sufficiently well without this.

Dr. Abbe said it was perfectly true that we were obliged to leave the question of radical cure to time, but nevertheless he thought surgeons ought in the meanwhile to express their opinions in regard to the various methods advocated. During the past year he had performed Dr. McBurney's operation in seventeen cases, and he felt entirely convinced that it was the best that was now at command. In all he had operated in 117 cases, and fifty-two of these were by Macewen's method,

by which he had been greatly attracted. Macewen claimed that other operators did not succeed with it as well as he himself because they did not operate in the right way; but if the procedure was so difficult that no one but Macewen could perform it properly, it was scarcely worthy of the confidence of the profession. He had now abandoned all other methods for Dr. McBurney's, and one of the greatest advantages of the latter he considered its simplicity in general practice. He had not as yet, however, felt willing, like Dr. McBurney, to leave his patients without a truss after the operation.

A considerable number of other speakers also took part in the discussion. In concluding it Dr. McBurney said in regard to the test of time that no results could, of course, be claimed if it were said arbitrarily that we must wait ten years before deciding as to the validity of the cure in any given case. While, however, longer time was certainly to be desired, he thought we could at least study the principles that ought to guide us in such operations. He had not, with a single exception, refused to operate in a single case; the exception being an old man suffering from advanced Bright's disease and in a generally broken down condition. In every case except the one in which the relapse occurred he was quite satisfied that the sac was completely obliterated and the peritoneum rendered smooth. As to omitting to split the canal in certain old cases where the ring might be perhaps 2 inches in diameter, as suggested by Dr. Gerster, he claimed that even in this class of cases the sac could not be obliterated unless the canal was slit up so that the ligature could be applied at the highest possible point. Although he hoped for the contrary, it might be that in the course of time some of his cases would relapse. Up to the present, however, with the exception of the one mentioned, he had failed to find any evidence of threatened or commencing recurrence in any of them.

At the last meeting of the Section on Obstetrics and Gynecology of the Academy Dr. W. Gill Wylie, who is widely known as one of the boldest and most successful operators among American gynecologists, read a paper on *Surgical Treatment of Retroversion of the Uterus with Adhesions, with a New Method of Shortening the Round Ligaments*, in which he expressed views which not very long ago would have been very generally pronounced as decidedly "advanced," but which have of late been steadily gaining ground among many of our most able specialists in this department. Dr. Wylie believes that in nine cases out of ten where there is retroversion with adhesions the tubes and ovaries are diseased, and consequently, that any treatment which does not involve the uterine appendages, if these are diseased, is not only useless but dangerous. He expressed himself strongly on this point because he finds that many still treat such cases with pessaries, and that even quite young teachers of gynecology still practice and teach the use of the uterine repositor, an instrument that for many years he has considered obsolete and dangerous, since by opening the abdomen it has been found that in the vast majority of instances retroversion with adhesions means salpingitis, local peritonitis, etc., and it is now known why, as a result of trying to break up adhesions years ago, such patients had so many attacks of so-called cellulitis.

While in some cases the ovaries and tubes are not involved, he said we could not in all instances be sure of this without performing laparotomy, and when the abdomen has once been opened, he has devised a simple and efficient way of fixing and holding the uterus forward. Having freed all adhesions, he catches up the round ligament, at a point about midway between the fundus of the uterus and the pubic bone, with a pair of pressure forceps, pulls it up through the abdominal wound, and with a scalpel scrapes the peritoneum on the inner side of the ligament, so as to make it raw. He then folds together the two halves of the ligament and brings them in close apposition by means of two or four strong silk ligatures passed around and slightly into the ligament, so as to hold the folds of the latter firmly together, but not using sufficient force to cut into or destroy the ligament. Afterwards he may make still closer apposition, if this is indicated, by means of finer and more superficial sutures. These steps are then repeated on the other round ligament, and the wound closed.

This procedure, he states, is easily carried out, and if the sutures are not placed deep enough to injure the bladder or include a ureter, he considers it about as free from danger as an exploratory incision. He thinks it is much to be preferred to the so-called hysterrhaphy, and is much better than Polk's suggestion to close the abdominal wound and do Alexander's operation after healing up the adhesions. Dr. Wylie has done this operation for the past three years and with excellent results in some cases, and he says that long before this, when removing the tubes and ovaries, he so included the round ligament in his pedicle ligature as to shorten it and sustain the fundus forward.

At the February meeting of the New York County Medical Association formal addresses were delivered by Dr. J. R. MacGregor, the retiring President, and Dr. C. S. Wood, President-elect of the Association. The former was mainly devoted to the consideration of the relations of medical science to the various interests of the community, the advancement of the standard of medical education, and the advantages to be derived from active work in medical societies; while the topic proper of the latter was the *vis medicatrix naturæ*. This Dr. Wood believed to be for the

most part a delusion and a snare, and, denouncing the so-called expectant plan of treatment of disease, he stated that his faith in drugs had only increased with his experience in practice. A portion of the address was taken up with suggestions for increasing the efficiency and scientific work of the Association. P. P. B.

MISCELLANY.

MEDICAL GRADUATES.—Following are the numbers of graduates of medical schools that have closed the session of 1888–89: Ensworth Medical College, St. Joseph Mo., 9 graduates; Michigan College of Medicine and Surgery, 11; Medical Department of the University of Louisville, 128; Medical College of Indiana, 27; Southern Medical College, Atlanta, 50 (?); Medical Department of Georgetown University, 14; Medical College of the State of South Carolina, 25; Medical Department, State University of Iowa, 43; Miami Medical College, 12; Medical College of Ohio, 85.

THE LACAZE PRIZE of 10,000 fr. has been awarded to Dr. Malassez, Director of the laboratory of histology of the College de France, for his work on tuberculosis.

PUBLIC MEDICAL LIBRARIES.—In the proceedings at the reception given to Dr. Oliver Wendell Holmes on the occasion of his presenting his library to the Boston Medical Library Association, Dr. R. M. Hodges, president of the Association, gave some facts regarding the public medical libraries of this country. "First," he said, in point of time, is the library of the Pennsylvania Hospital, founded in 1760; second, that of the College of Physicians, in Philadelphia, founded in 1788; third, the New York Hospital library, in 1796, etc. Of course, the library of the surgeon-general's office has surpassed in size all these, having a large annual appropriation and a magnificent librarian. Next in rank comes the library of the College of Physicians; next, that of the Academy of Physicians; and our library comes fourth in rank. After that come the Medical Department of the Public Library of Boston, and the New York Hospital Library. In other words, although the youngest of the seven libraries, ours has already passed three of them. We have nearly twenty thousand volumes."

A DOCTRINE OF PUBLIC POLICY.—Another legal decision of interest to physicians has just been announced in this city, and as it is the first of the kind coming before the courts, and will now be accepted as a precedent, we hasten to give our readers the benefit. The suit was brought to recover fees for consultation rendered by a physician while at a distance, the consultant in the case being the patient's own regular attendant, while the temporary attendant was a physician unacquainted with the previous ailments, and asked the regular attendant for advice in the matter as the patient's case assumed a grave form. The patient died at the end of three weeks, during the absence of his sister, his only surviving relative, who was at the time travelling on the continent of Europe. As residuary legatee, the sister not only refused to pay the consultant's fees, but roundly abused both him and his confrère, and like many other doctors, there was nothing for him to do but to bow himself out and enter his claim for collection according to law.

At the adjudication of the case before the Orphan's Court, counsel insisted that although the patient may not have been competent to decide as to the need for consultation during his illness, he was in such a condition when the attendant first saw him, and the auditing judge decided that the consultant having no contract to show was not entitled to recover, as the physician first called had no authority to employ him. An appeal was taken, and on the first of the present month an opinion was delivered by Judge Ashman, reversing the decision of the auditing judge, and allowing the amount claimed on the ground that it was the doctrine of public policy. The judge said: "If the right, in the consulting physician, to compensation for his services, is without legal merit, then the law is a reproach to conscience. That it has not been passed upon hitherto means nothing, or rather, it means that it has never been questioned, any more than the right of the physician to charge his patient with the drugs he has purchased, or the nurse he has hired for him, when drugs and nursing were indispensable to his recovery."—*Medical Register.*

THE PORTER COUNTY (IND.) MEDICAL SOCIETY recently met at Valparaiso and elected officers as follows: President, G. W. Arnold; Vice-President, A. P. Letherman; Secretary, D. J. Loring.

THE BIRMINGHAM (ALA.) ACADEMY OF MEDICINE held its regular monthly meeting on March 6. The officers of the Academy are: Dr. C. B. Richards, President; Dr. J. G. Orton, Secretary; Dr. W. A. Moore, Treasurer. The Academy was established in 1854. Nearly all of the charter members are now dead. Dr. Orton has officiated in the capacity of secretary from the time the society was organized until now. The next meeting will be held on the Third Thursday in April.

THE CINCINNATI ACADEMY OF MEDICINE elected the following officers on March 4: President, Dr. William Judkins; first Vice-President, Dr. George W. Ryan; second Vice-President, Dr. W. S. Christopher; Recording Secretary, Dr. Geo. A. Frackler; Corresponding Secretary, Dr. J. M. Withrow; Treasurer, Dr. Geo. E. Jones; Librarian, Dr. David De Beck; Trustees, Dr. S G. Highway, Dr. Giles S. Mitchell, Dr. C. D. Palmer.

THE NORTH-EASTERN KANSAS MEDICAL ASSOCIATION met at Holton on March 6. The attendance was good and the exercises interesting. The next Meeting of the Association will be at Whiting the first Tuesday in June.

SEXUAL CAUSES OF INSANITY.—The Medico-Legal Society of New York has appointed a committee to consider this subject. It is composed of Clark Bell, Esq., President of the Medico-Legal Society; Dr. P. Bryce, Superintendent of Insane Asylum at Tuscaloosa, Ala.; Alice Bennett, M.D., Superintendent of the Pennsylvania State Hospital for Insane, at Norristown, Pa.; Dr. C. A. Rice, Superintendent of Mississippi State Hospital for the Insane, at Meridian, Miss.; Ex-Governor Hoyt, of Philadelphia, Pa.; and E. W. Chamberlain, Esq., of the New York Bar. This committee will be glad to receive the views of alienists, superintendents of asylums, and others as to the question: "How far is Insanity due to Sexual Causes?" Dr. Bennett will read a paper upon this topic before the Medico-Legal Society of New York on March 13.

DR. H. R. STORER, Newport, R. I., Chairman of the Committee of Arrangements of the American Medical Association, has recently received the diploma of associate membership in the Archæological and Geographical Society of Pernambuco, Brazil.

THE AMERICAN MEDICAL ASSOCIATION.—One of the events of the coming season will be the fortieth annual convention of the American Medical Association, which will be held here the last week in June. The last meeting of this Association occurred at Cincinnati in June last, when nearly 1,500 physicians from all parts of the country were present. In addition to this large number, many of whom bring their families, there were upwards

of 100 exhibitors of instruments, medical preparations, invalid appliances, prepared foods and the many other industries connected with the medical profession. The Association includes the leading doctors in regular practice, college professors, hospital surgeons, etc., throughout the country, and is modeled after the great British Medical Association. It will meet this year for the first time outside of the large cities. The Association comes to Newport without solicitation on the part of the local physicians, and under favorable conditions the holding of the convention here will be likely to give the city a boom both as a winter and as a summer resort. To ensure the success of the convention the local committee, which includes all of the resident physicians, with Dr. Storer as chairman, is working earnestly and feels confident that the visitors will have no reason to regret their selection of Newport. It is possible that the City Council or a citizens' committee will assist in the entertainment of the visitors, Mayor Coggeshall having suggested such action to the City Council, in connection with the observance of the 250th anniversary of the settlement of the city.—*Newport News*, February 27.

NEW YORK MEDICO-LEGAL SOCIETY TRANSACTIONS.—The first edition of the volume of papers and addresses read before this Society, called Series No. 1, having been exhausted, it is proposed to issue a new edition. The volume will contain 600 pp., many papers of permanent value, and will be illustrated with portraits of several distinguished men. The price will be $3 in muslin and $2.25 in paper. Persons wishing to secure a copy should send their subscriptions to Mr. Clark Bell, No. 57 Broadway, New York.

LETTERS RECEIVED.

Dr. J. T. Biggerstaff, LaGro, Ind.; Dr. D. Duckett, Forrest, Ill.; Dr. D. R. Armitage, Muncie, Ind.; Dr. Jas. H. Buckner, Cincinnati, O.; Dr. A. J. Ritchie, Manawa, Wis.; Dr. W. M. Smith, Syracuse, N. Y.; Dr. J. H. Kellogg, Battle Creek, Mich.; Surgeon W. H. Long, U. S. M. H., Cincinnati, O.; Dr. Jas. M. French, Cincinnati, O.; Dr. W. Channing, Brookline, Mass.; Pennsylvania Company; E. J. C. Ellis, Chicago Medical College; M. P. Brannan, Chicago; M. D. Pelle and J. H. Schuck, Hospital College of Medicine, Louisville; B. E. Martin, Rush Medical College, Chicago; L. J. Pritzker and John Kercher, Chicago Medical College; A. E. Lawrence, Columbus Medical College; J. H. Chambers & Co., St. Louis, Mo.; Dr. A. B. Younkman, Brenen, Ind.; Fred. Stearns & Co., Detroit, Mich.; Victor Safe & Lock Co., Cincinnati, O.; A. J. Colton, Buffalo, N. Y.; Arthur F. Fischer, University of Michigan; N. A. Staley, Albany Medical College; J. H. Black, Philadelphia; Dr. M. L. Mayo, Huntington, W. Va.; P. Blakiston, Son & Co., Philadelphia; Frank P. Buffum, Rush Medical College; Dr. T. W. Kay, Baltimore, Md.; J. H. Bates & Co, New York; W. R. Granger, University of Vermont; T. B. Waters, St. Louis Medical College; Dr. H. J. Holke, St. Louis; Dr. John P. Stoddard, Muskegon, Mich.; P. del Valle, University of Michigan; M. W. Everson, Jefferson Medical College; J. A. DuBois, Albany Medical College; A. B. Emery, Buffalo, N. Y., Dr. D. M. Wick, New Hartford, Ia.; W. S. Cobb, West Stockbridge, Mass.; N. M. Geer, Port Huron, O.; Fred F. Price, Camden, N. J.; H. L. Schaefer and W. M. Yoekey, Chicago Medical College; Dr. A. J. Vance, Harrison, Ark.; G. C. Lyman, Burlington, Vt.; Geo. Ripley, Medical College of Indiana; John H. Egan and W. A. Levan, Jefferson Medical College; Dr. J. W. Kime, Ft. Dodge, Ia.; David A. Fitzgerald, New York; Dr. Wm. G. Parrish, Burlington, N. J.; Dr. T. S. Foster, Laconia, N.H.; Geo. W. Fitch, Washington, D. C.; Chas. F. Hitchcock, Syracuse, N. Y.; Dr. Henry O. Marcy, Boston, Mass.; W. P. Gillinghauer and A. J. Hocuss, Ann Arbor, Mich.; Geo. T. Head, Syracuse Medical College; Dr. Maris Gibson, Wilkesbarre, Pa.; P. S. Eustis, Chicago; Dr. D. W. Overholdt, Columbus Junction, O.; Dr. J. F. McGarvey, Cloquet, Minn.; Dr. E. J. Doering, Chicago; Dr. John A. Terrell, Baltimore, Md.; Dr. W. H. Martin, Urbana, Ind.; Imperial Granum Co., New Haven, Conn.; Newport Aluminum & Steel Co., Newport Ky.; Dr. D. T. Gans, West Florence, O.; Dr. Jas. H. Buckner, Cincinnati, O.; Dr. T. T. Robertson, Winnsboro, S. C.; Dr. E. G. Proctor, Kane, Ill.; W. H. Schieffelin & Co., New York; Dr. C. W. Richardson, Washington, D. C.; G. R. White, New York; Warren A. Miles, Syracuse, N. Y.; Dr. M. A. Bailey, Jamestown, Pa.; F. C. Donald, Chicago; E. Merk, New York; Dr. A. L. Justice, El Paso, Tex.; Dr. Arthur J. Hall, Washington, D. C.; John G. Reed, Cincinnati, O.; Dr. Addinell Hewson, Philadelphia; Dr. Dudley Allen, Oberlin, O.; Dr. C. A. Rust, Saginaw, Mich.; Dr. H. J. Cowan, Danville, Ky.; J. A. Parks, Ann Arbor, Mich.; Dr. J. S. Updike, New York; Dauchy & Co., New York; Dr. C. F. Dutton, Cleveland, O.; Dr. Wm. B. Atkinson, Philadelphia; Dr. Wolfred Nelson, New York; Dr. Karl von Ruck, Winyah, S. C.; E. Steiger & Co, New York; Dr. S. T. McDermitt, Cowden, Ill.; Dr. Joseph Cummings, Evanston, Ill.; Dr. H. T. Montgomery, South Bend, Ind.; Dr. C. P. Tucker, New York; Plimpton Mfg. Co., Hartford, Conn.; Dr. John B. Roberts, Philadelphia, Pa.; Geo. H. Cattermole and L. H. Bacon, Ann Arbor, Mich.; W. S. Buchler, Philadelphia, Pa.; Dr. D. D. Bramble, Cincinnati, O.; Dr. J. A. Etheridge, Eatonton, Ga.; Northern Pacific Railroad Co.; F. J. Woiteshek, Ely, Ia.; Dr. D. I. Giärth, Altoona, Pa.; F. J. Fella, Toledo, O.; Dr. A. J. Brockett, Cleveland, O.; Dr. T. Smolsky, St. Petersburg, Russia; Dr. R. J. Dunglison, Philadelphia.

PAMPHLETS RECEIVED.

Bell, Clark. *Ninth Inaugural Address* as President of the Medico-Legal Society of New York. Reprint from Medico-Legal Journal.

Fifth and Sixth Annual Reports of the Board of Trustees and Superintendent of the State Lunatic Asylum, Little Rock, Ark.

Homan, Geo., M.D., Medical Examiner, St. Louis, Mo. *Reports of the Physical Condition of the Police Force of St. Louis made to the Board of Police Commissioners.*

Tilden, G. H., M.D., Boston, Mass. *Transactions of the American Dermatological Association at its Twelfth Annual Meeting.*

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 2, 1889, to March 8, 1889.

Major Warren Webster, Surgeon U. S. Army, retired from active service February 28, 1889. Par. 9, S. O. 50, A. G. O., March 1, 1889.

Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending March 9, 1889.

P. A. Surgeon E. H. Marsteller, detached from monitors at Richmond and wait orders.

P. A. Surgeon A. G. Cabell, detached from the Naval Hospital, Chelsea, Mass., and ordered to monitors at Richmond.

P. A. Surgeon Walter A. McClurg, promoted to rank of Surgeon.

Surgeon H. J. Babin, detached from the "Mohican," proceed home and wait orders.

Surgeon G. P. Bradley, ordered to the "Mohican."

Asst. Surgeon Geo. A. Lang, detached from the "Vermont" and ordered to the "Mohican."

SPECIAL NOTICE.

SECRETARIES OF MEDICAL COLLEGES, to whom circulars asking for information have been sent by THE JOURNAL, will please give their names and the titles of their colleges on returning the circular. Some circulars have been returned without any mark of identification.